Fossilium Catalogus

II: Plantae.

Editus a

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Pars 14:

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Sapindaceae.

W. Junk
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Sapindaceae.

Foreword.

The family Sapindaceae includes about 130 living genera and well over a thousand species, occurring mainly in tropical and subtropical regions. Of these genera (apart from 14 recent species, belonging to 9 genera, from an African basalt-tuff of unknown age, but probably not very old) only 11 have been recorded in the fossil state, and several of these are not very well grounded. In addition, 21 form genera have been created for sapindaceous fossils which are either extinct or of more or less doubtful identification. A short review of the fossil genera is given by Berry, 1916 (pp. 106—8). Radlkofer and other authors have drawn attention to the possibilities of confusion with other families, such as the Meliaceae, Anacardiaceae, and Juglandaceae.

The present catalogue follows on general lines the arrangement of earlier parts of the Fossilium Catalogus, and the genera are given in strictly alphabetical order. Entries under each species are in chronological order. The synonymies, however, do not include complete references; these are arranged under authors' names in the bibliography, and may be found by means of the index date.

Thus, "1860 Cupania grandis Unger, p. 36 . . . ." implies that the first reference or description of this species will be found in Unger 1860 on the page given. Subsequent references under the same name are cited thus:

"1861 Cupania grandis Unger: Ettingshausen, p. 244." When the generic name is changed, the reference is given thus:

"1874 Cupanites grandis (Unger) Schimper, p. 171", implying that Schimper was the authority for the change of name, and subsequent citations under the new name are in this form:

"1888 Cupanites grandis (Unger): Schenk, p. 548."

When two or more papers by the same author have been published in one year, they are distinguished by the addition of letters, thus: 1870, 1870a, 1870b, and so on.

Synonyms, nomina nuda, names of species which have been transferred to other families, and misidentifications are enclosed in square brackets. There is no special list of sapindaceous fossils originally referred to other families; these can be adequately traced by means of the index.

No attempt has been made to deal with all the species critically; occasional comments will be found, but the absence of critical remarks by no means implies that we accept the determinations.

In recording the distribution, full particulars of localities are usually given in the case of uncommon species, but not always for the common and widely distributed forms. Fuller details of the American localities may be found in Knowlton's catalogue (1919). The age of all the plant-bearing beds has not been critically examined. As a general rule, the age given by the original author has been cited, if there is no commonly-accepted revision of his estimate.

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Aphania Blume.

Aphania senegalensis Radlkofer.

1920 Aphania senegalensis Radlkofer: Menzel, p. 28.
Occurrence: ? Pleistocene; Kameroons.

Aporrhiza Radlkofer.

Aporrhiza nitida Gilg.

1920 Aporrhiza nitida Gilg: Menzel, p. 28.
Occurrence: ? Pleistocene; Kameroons.

Carpolithus Linnaeus.

[Carpolithus circumcinctus Saporta.]

1873 Carpolithes circumcinctus Saporta, p. 135, pl. XVIII, f. 34.
Remarks: ? Sapindaceae, or perhaps Juglandaceae.
Occurrence: Oligocene; Aix-en-Provence.

Carpolithus cupanoides Crié.

1886 Carpolithes cupanoides Crié, p. 1143.
Remarks: Described but not figured. Said to agree with *Cupanoides* Bowerbank.
Occurrence: Eocene; western France.

Carpolithus euphoriaeoides Engelhardt.

1922 Carpolithes euphoriaeoides Engelhardt, p. 120, pl. XL, f. 25.
Remarks: Fruit, said to be reminiscent of *Euphoria* spp.
Occurrence: Eocene; Hessen (Messel near Darmstadt).

[Carpolithus sapindaceus Massalongo.]

1859 Carpolithes sapindaceus Massalongo, p. 122.
Remarks: Nomen nudum.

Carpolithus sapindiformis Engelhardt.

1922 Carpolithes sapindiformis Engelhardt, p. 94, pl. XXX, f. 11.
Remarks: Engelhardt says that perhaps this fruit belongs to one of the *Sapindus* leaves described from the deposit.
Occurrence: Eocene; Hessen (Messel near Darmstadt).

Carpolithus sapindoides Engelhardt.

1922 Carpolithes sapindoides Engelhardt, p. 120, pl. XL, f. 26.
Remarks: Compared with *Sapindus* fruits.
Occurrence: Eocene; Hessen (Messel near Darmstadt).

Carpolithus sp.

1910 **Carpolithes** sp.: Menzel, p. 189, pl. XIV, f. 8, 9.
Remarks: Compared by Menzel with *Cupanoides inflatus* Bowerbank.
Occurrence: Upper Miocene; Posen.

Chytranthus Hooker f.

Chytranthus dinklagei Gilg.

1920 **Chytranthus dinklagei** Gilg: Menzel, p. 28.
Occurrence: ? Pleistocene; Kameroons.

Conchotheca Mueller.

[**Conchotheca turgida** Mueller.]

1874 (Sept.) **Conchotheca turgida** Mueller, p. 42, pl. X, f. 5—12.
1874a **Conchotheca turgida** Mueller, p. 24, pl. X, f. 5—12.
1925 **Conchotheca turgida** Mueller: Deane, p. 491, pl. LX, f. 11, 17—21.
Remarks: Deane says: "The alliance seems to me to be with *Sapindaceae*". Von Mueller gives no opinion on the affinities of the fruit.
Occurrence: Pliocene; Victoria.

Cupania Linnaeus.

[**Cupania axonensis** Watelet.]

1866 **Cupania axonensis** Watelet, p. 227, pl. LVI, f. 5.
Remarks: Now referred by Fritel (1909, p. 261—2) to *Laurus regularis* Watelet.

[**Cupania corrugata, depressa,** etc.]

Synonyms of **Cupanoides corrugatus** etc., q. v.

[**Cupania dryandraefolia** Massalongo.]

1859 **Cupania dryandraefolia** Massalongo, p. 93.
Remarks: Nomen nudum.

[**Cupania furcinervis** (Rossmässler) Stur.]

1840 **Phyllites furcinervis** Rossmässler, p. 33, pl. VI, f. 25, pl. VII, f. 26—31 (32—36).
1845 **Quercus furcinervis** (Rossm.) Unger, p. 217.
1875 **Cupania furcinervis** (Rossm.) Stur, p. 164.
1881 **Cupania furcinervis** (Rossm.): Stur, p. 292.
Remarks: With additional material of Rossmässler's *Phyllites furcinervis* (which had been referred to *Quercus* by Unger, and closely compared with the Aachen *Dryophylla* by Debey), Stur concluded that it was a compound leaf, and he considered it to be probably a *Cupania*. In the material at his disposal Stur distinguished two species, and named the second *Cupania rossmässleri*, but without illustrating either. He further suggested that some of the *Dryophyllum* leaves from the Cretaceous of

Aachen might really be leaflets of *Cupania* or some other genus of Sapindaceae.

Following Unger, *P. furcinervis* has been accepted as a *Quercus* by numerous authors. In discussing the species, Friedrich (1883, p. 54), justly remarks that until Stur's Altsattel specimens have been figured, there is no adequate ground for abandoning the reference to *Quercus*. He further suggests that the large size of some specimens does not support Stur's contention that they are leaflets of a compound leaf.

Occurrence: Upper Oligocene; Bohemia (Altsattel).

[Cupania grandis Unger.]

Synonym of **Cupanites grandis**, q. v.

Cupania grosseserrata (Engelhardt) Berry.

1890 **Benettia grosse-serrata** Engelhardt, p. 4 (nomen).
1890 **Thouinia philippii** Engelhardt, p. 4 (nomen).
1891 **Benettia grosseserrata** Engelhardt, p. 655, pl. XII, fig. 3.
1891 **Thouinia philippii** Engelhardt, p. 671, pl. IX, f. 13, pl. X, f. 4, 5.
1922 **Thouinia philippii** Engelhardt: Berry, pp. 82, 84, 96, 105, pl. IV, f. 1, 2.
1925 **Cupania grosseserrata** (Engelhardt) Berry, p. 212, pl. VI, f. 5.

Remarks: Berry points out the identity of the leaves from Chile referred by Engelhardt to *Benettia* (Compositae) and *Thouinia*, and considers (1925) that they are more properly to be placed in *Cupania*. The specific name *grosseserrata* is retained as it has priority of position.

Occurrence: Miocene; Chile and Patagonia.

Cupania incerta Berry.

1925 **Cupania incerta** Berry, p. 215, pl. VIII, f. 3.

Occurrence: Miocene; Patagonia.

[Cupania juglandina Ettingshausen.]

Synonym of **Cupanites juglandinus**, q. v.

Cupania latifolioides Berry.

1925 **Cupania latifolioides** Berry, p. 214, pl. VI, f. 4.

Occurrence: Miocene; Patagonia.

Cupania ? longipes Heer.

1878 **Cupania ? longipes** Heer, p. 51, pl. XIV, f. 9.

Occurrence: Miocene; Sachalin.

[Cupania melaena Ettingshausen.]

1851a **Cupania melaena** Ettingshausen, p. 186.

Remarks: Nomen nudum.

[**Cupania miocenica** Ettingshausen.]

1850 **Cupania miocenica** Ettingshausen in Prinzinger, p. 604.
Remarks: Name only; evidently synonymous with *Cupanoides miocenicus* Ettingshausen (see under *Cupanites*).

[**Cupania neptuni** (Unger).]

Synonym of **Cupanites neptuni**, q. v.

[**Cupania palaeorhus** Ettingshausen.]

Synonym of **Cupanites palaeorhus**, q. v.

[**Cupania praetomentosa** Krasser.]

1903 **Cupania praetomentosa** Krasser, p. 858.
Remarks: Ms. name of Ettingshausen. Nomen nudum.
Occurrence: Tertiary; Brazil.

[**Cupania Rossmaessleri** Stur.]

1875 **Cupania rossmässleri** Stur, p. 164.
1881 **Cupania rossmässleri** Stur, p. 291.
Remarks: See **Cupania furcinervis**.
Occurrence: Upper Oligocene; Bohemia (Altsattel).

Cupania sp.

1862 **Cupania** sp.: De la Harpe & Salter, p. 117.
Remarks: Leaf, also said to resemble *Juglans*.
Occurrence: Eocene; England (? Alum Bay).

Cupanites Schimper 1874, p. 170.

Established for sapindaceous leaves of doubtful generic affinity, including those referred by Unger to *Cupania*. The genus *Cupanoides* should be restricted to fruits.

Schenk (1888, p. 548) is uncertain whether these leaves belong to *Sapindaceae*, and suggests that there is also a resemblance to *Juglandaceae* and *Anacardiaceae*.

Cupanites anomalus (Andrae) Schimper.

1855 **Cupanoides anomalus** Andrae, p. 23, pl. III, f. 3.
1867 **Cupanoides anomalus** Andrae: Stur, p. 179.
1874 **Cupanites anomalus** (Andrae) Schimper, p. 172.
1888 **Cupanites anomalus** (Andrae): Schenk, p. 548.
Remarks: "Too fragmentary for identification". (Schenk).
Occurrence: Oligocene; Transylvania (Thalheim).

Cupanites eoligniticus Berry.

1916 **Cupanites eoligniticus** Berry, p. 269, pl. LXIV, f. 8, 9; pl. LXV, f. 1—3.
Occurrence: Eocene (Wilcox); Tennessee, Louisiana.

Cupanites grandis (Unger) Schimper.

1860 **Cupania grandis** Unger, p. 36, pl. XV, f. 6.
1861 **Cupania grandis** Unger: Ettingshausen, p. 244.
1868 **Cupania grandis** Unger: Ettingshausen, p. 878, pl. V, f. 2.
1874 **Cupanites grandis** (Unger) Schimper, p. 171.
1883 **Cupania grandis** Unger: Pilar, p. 102.
1888 **Cupanites grandis** (Unger): Schenk, p. 548, f. 312[1].
1921 **Cupanites grandis** (Unger): Principi, p. 92.
1926 **Cupanites grandis** (Unger): Principi, p. 76.

Remarks: Compared with the living *C. micrantha* of Brazil.

Occurrence: Oligocene; Italy (Chiavon).
Miocene; Croatia (Radoboj, Sused, Dolje).
Germany (Salzhausen).

Cupanites juglandinus (Ettingshausen) Schimper.

1858 **Cupania juglandina** Ettingshausen, p. 534, pl. III, f. 2, 6.
1861 **Cupania juglandina** Ett.: Ettingshausen, p. 244.
1874 **Cupanites juglandinus** (Ett.) Schimper, p. 171.
1879 **Cupania juglandina** Ett.: Hauer, p. 171.
1888 **Cupanites juglandinus** (Ett.) Schenk, p. 548.
1902 **Cupania juglandina** Ett.: Engelhardt, p. 287, pl. II, f. 24.
1922 **Cupania juglandina** Ett.: Engelhardt, p. 95, pl. XXXII, f. 5.

Remarks: Ettingshausen remarks that similar leaves are found in *Rhus* and *Juglans*. Engelhardt agrees that the identification is uncertain.

Occurrence: Eocene; Hessen (Darmstadt)
Oligocene (Chattian); Styria (Sotzka), Bosnia (Zenica).
Miocene; Hessen (Himmelsberg).

Cupanites lanceolatus Principi.

1921 **Cupanites lanceolatus** Principi, p. 92 (nomen)
1926 **Cupanites** (?) **lanceolatus** Principi, p. 77, pl. IX, f. 7.

Occurrence: Oligocene: Italy (Chiavon).

Cupanites loughridgii Berry.

1888 **Myrica copeana** Lesquereux, p. 12.
1916 **Cupanites loughridgii** Berry, p. 269, pl. LXV, f. 4.

Remarks: Affinities uncertain. Not identical, according to Berry, with Lesquereux's *Myrica copeana* from Florissant.

Occurrence: Eocene (Lagrange); Kentucky.

Cupanites miocenicus (Ettingshausen) Schimper.

1850 **Cupania miocenica** Ettingshausen in Prinzinger, p. 604 (nomen).
1851 **Cupanoides miocenicus** Ettingshausen, p. 22, pl. V, f. 1.
1851b **Cupanoides miocenicus** Ett.: Ettingshausen, p. 44.
1852 **Cupanoides miocenicus** Ett.: Massalongo, p. 28.
1861 **Cupanoides miocenicus** Ett.: Ettingshausen, p. 244.
1867 **Cupanoides miocenicus** Ett.: Stur, p. 179.
1874 **Cupanites miocenicus** (Ett.) Schimper, p. 170.

Remarks: Considered by Ettingshausen to be related to *Nephelium*, *Sapindus*, or *Cupania*. Attribution very doubtful, but probably *Sapindaceae*, according to Schimper.

Occurrence: Miocene; Austria (Laa near Vienna).

Cupanites neptuni (Unger) Schimper.

1850 **Samyda neptuni** Unger, p. 443.
[1860 **Saurauja neptuni** Ettingshausen MS.: Unger, p. 35.]
[1860 **Saurauja radobojana** Ettingshausen MS.: Unger, p. 35.]
1860 **Cupania neptuni** (Unger) Unger, p. 35, pl. XV, f. 7, 8, pl. XVI, f. 1—4.
1861 **Cupania neptuni** (Unger): Ettingshausen, p. 244.
1869 **Cupania neptuni** (Unger): Engelhardt, p. 152.
1870 **Cupania neptuni** (Unger): Engelhardt, p. 25, pl. VII, f. 1.
1870a **Cupania neptuni** (Unger) (pars): Ettingshausen, p. 887, and table 8.
1874 **Cupanites neptuni** (Unger) Schimper, p. 171.
1883 **Cupania neptuni** (Unger): Pilar, p. 103.
1891a **Cupania neptuni** (Unger): Engelhardt, p. 30.
1892 **Cupanites neptuni** (Unger): Keller, p. 108, pl. XI, f. 1.
1898 **Cupania neptuni** (Unger): Engelhardt, p. 105, pl. X, f. 29.
1901 **Cupanites neptuni** (Unger): Squinabol, p. 55, pl. IV, f. 1.
1911 **Cupania neptuni** (Unger): Engelhardt, p. 418, pl. XLIV, f. 14.
1922 **Cupania neptuni** (Unger): Engelhardt, p. 95, pl. XXXII, f. 2.

Remarks: Ettingshausen (1870a, p. 886) referred Unger's figs. 7 and 8, pl. XV to *Bombax*; Friedrich (1883, p. 145) went further and referred all Unger's figures to *Bombax*. Later authors have reverted to *Cupania* or *Cupanites*.

Occurrence: Upper Eocene; Italy (Novale), Hessen (Darmstadt). Oligocene; Bohemia (Berand), Hessen (Wieseck), Saxony. Miocene; Bohemia (Birkigt), Croatia (Radoboj, Sused, Dolje), Switzerland (St. Gallen).

Cupanites nigricans (Lesquereux) Berry.

1872 **Myrica nigricans** Lesquereux, p. 6.
1878a **Myrica nigricans** Lesq.: Lesquereux, p. 132, pl. XVII, f. 9—12.
1924 **Cupanites nigricans** (Lesq.) Berry, p. 176, pl. XXXIV, f. 7.

Occurrence: Eocene (Jackson, Green River); Georgia, Wyoming.

Cupanites novae-zeelandiae Ettingshausen.

1887 **Cupanites novae-zeelandiae** Ettingshausen, p. 188, pl. IX, f. 18—20.
1890 **Cupanites novae-zeelandiae** Ett.: Ettingshausen, p. 306, pl. XXXII, f. 18, 20.

Occurrence: Upper Cretaceous; N. Zealand (Grey River & Pakawan).

Cupanites oligocenicus Principi.

1921 **Cupanites oligocenicus** Principi, p. 92 (nomen).
1926 **Cupanites oligocenicus** Principi, p. 77, pl. IX, f. 6.

Occurrence: Oligocene; Italy (Chiavon).

Cupanites palaeorhus (Ettingshausen) Schimper.

1869 **Cupania palaeorhus** Ettingshausen, p. 27, pl. XLVI, f. 12.
1874 **Cupanites palaeo-rhus** (Ett.) Schimper, p. 172.
1911 **Cupania palaeorhus** Ett.: Kafka, p. 29.

Occurrence: Miocene; Bohemia (Bilin).

Cupanites parvulis Berry.

1924 **Cupanites parvulis** Berry, p. 70, pl. XII, f. 5.
Occurrence: Eocene (Yegua); Louisiana.

Cupanites selwyni Ettingshausen.

1886 **Cupanites selwyni** Ettingshausen, p. 126, pl. XIV, f. 12, 12a.
1888a **Cupanites selwyni** Ett.: Ettingshausen, p. 161, pl. XIV, f. 12, 12a.
Occurrence: Tertiary; Australia.

Cupanoides Bowerbank 1840.

[1828 **Amomocarpum** Brongniart, p. 130.]
[1849 Non "**Cupanioides** Bow.": Brongniart, p. 83.]
Remarks: In 1828 Brongniart described some Sheppey fruits and proposed the designation *Amomocarpum* on the supposition that they belonged to *Amomum*, but in 1849 he abandoned this identification and accepted Bowerbank's name.
Schenk (1888, p. 548) thinks it possible that these fruits might belong to some other genus or family.
The name has occasionally been used for leaf impressions, but should be confined to fruits.

[**Cupanoides anomalus** Andrae.]

Synonym of **Cupanites anomalus**, q. v.

Cupanoides carniolicus Unger.

1866 **Cupanoides carniolicus** Unger, p. 51, pl. XVI, f. 5.
1874 **Cupanoides carniolicus** Ung.: Schimper, p. 173.
1888 **Cupanoides carniolicus** Ung.: Schenk, p. 548.
Remarks: "Doubtful" (Schenk).
Occurrence: Tertiary; Carniola (Salberg).

Cupanoides corrugatus Bowerbank.

1840 **Cupanoides corrugatus** Bowerbank, p. 69, pl. XI, f. 3, 4.
1850 **Cupanoides corrugatus** Bowb.: Unger, p. 458.
1852 **Cupanoides corrugatus** Bowb.: Massalongo, p. 25.
1874 **Cupanoides corrugatus** Bowb.: Schimper, p. 173.
1879 **Cupania corrugata** (Bowb.) Ettingshausen, p. 395.
[1880 **Cupania corrugata** (Bowb.): Ettingshausen, p. 235.]
1888 **Cupanoides corrugatus** Bowb.: Schenk, p. 548, f. 312 [3].
Remarks: Ettingshausen's record from Alum Bay (1880) refers to a leaf.
Occurrence: Eocene (London Clay); England (Sheppey).

Cupanoides depressus Bowerbank.

[1828 ? **Amomocarpum depressum** Brongniart, pp. 137, 209 (nomen nudum)].
1840 **Cupanoides depressus** Bowerbank, p. 74, pl. XI, f. 23.
1850 **Cupanoides depressus** Bowb.: Unger, p. 458.
1852 **Cupanoides depressus** Bowb.: Massalongo, p. 27.
1874 **Cupanoides depressus** Bowb.: Schimper, p. 173.
1879 **Cupania depressa** (Bowb.) Ettingshausen, p. 395.

[1880 **Cupania depressa** (Bowb.): Ettingshausen, p. 235.]

Remarks: Ettingshausen's Alum Bay record refers to a leaf.

Occurrence: Eocene (London Clay): England (Sheppey).

Cupanoides grandis Bowerbank.

1840 **Cupanoides grandis** Bowerbank, p. 71, pl. XI, f. 10—12.
1850 **Cupanoides grandis** Bowb.: Unger, p. 458.
1852 **Cupanoides grandis** Bowb.: Massalongo, p. 26.
1861 **Cupanoides grandis** Bowb.: Ettingshausen, p. 244.
1874 Cupanoides grandis Bowb.: Schimper, p. 173.
1879 **Cupania grandis** (Bowb.) Ettingshausen, p. 395. (Non Unger)
[1880 Cupania grandis (Bowb.): Ettingshausen, p. 235.]

Remarks: Ettingshausen's Alum Bay record refers to a leaf.

Occurrence: Eocene (London Clay): England (Sheppey).

Cupanoides inflatus Bowerbank.

1840 Cupanoides inflatus Bowerbank, p. 73, pl. XI, f. 18—22.
1850 **Cupanoides inflatus** Bowb.: Unger, p. 458.
1852 **Cupanoides inflatus** Bowb.: Massalongo, p. 27.
1874 **Cupanoides inflatus** Bowb.: Schimper, p. 173.
1879 **Cupania inflata** (Bowb.): Ettingshausen, p. 395.
1888 **Cupanoides inflatus** Bowb.: Schenk, p. 548, f. 312 [6].

Remarks: See also *Carpolithus* sp.

Occurrence: Eocene (London Clay): England (Sheppey).

Cupanoides lobatus Bowerbank.

1840 **Cupanoides lobatus** Bowerbank, p. 69, pl. XI, f. 1, 2.
1850 **Cupanoides lobatus** Bowb.: Unger, p. 457.
1852 **Cupanoides lobatus** Bowb.: Massalongo, p. 25.
1861 **Cupanoides lobatus** Bowb.: Ettingshausen, p. 244.
1874 **Cupanoides lobatus** Bowb.: Schimper, p. 172.
1879 **Cupania lobata** (Bowb.) Ettingshausen, p. 395.
[1880 **Cupania lobata** (Bowb.): Ettingshausen, p. 235.]

Remarks: In 1861 Ettingshausen included *C. corrugatus*, *C. depressus*, and *C. subangulatus* as synonyms of this species, but apparently he abandoned this view later. His Alum Bay record (1880) refers to a leaf.

Occurrence: Eocene (London Clay): England (Sheppey).

[**Cupanoides miocenicus** Ettingshausen.]

Synonym of *Cupanites miocenicus*, q. v.

Cupanoides peruvianus Berry.

1927 Cupanoides peruvianus Berry, p. 126, pl. XIX, f. 1, 1a, 1b.

Occurrence: Oligocene; Paita, Peru.

Cupanoides pygmaeus Bowerbank.

1840 **Cupanoides pygmaeus** Bowerbank, p. 75, pl. XI, f. 24.
1850 **Cupanoides pygmaeus** Bowb.: Unger, p. 459.
1852 **Cupanoides pygmaeus** Bowb.: Massalongo, p. 27.
1861 **Cupanoides pygmaeus** Bowb.: Ettingshausen, p. 244.

1874 **Cupanoides pygmaeus** Bowb.: Schimper, p. 173.
1879 **Cupania pygmaea** (Bowb.) Ettingshausen, p. 395.
Occurrence: Eocene (London Clay): England (Sheppey).

Cupanoides subangulatus Bowerbank.

1840 **Cupanoides subangulatus** Bowerbank, p. 70, pl. XI, f. 7—9.
1850 **Cupanoides subangulatus** Bowb.: Unger, p. 458.
1852 **Cupanoides subangulatus** Bowb.: Massalongo, p. 26.
1874 **Cupanoides subangulatus** Bowb.: Schimper, p. 173.
1879 **Cupania subangulata** (Bowb.) Ettingshausen, p. 395.
[1880 **Cupania subangulata** (Bowb.): Ettingshausen, p. 235.]
Remarks: Ettingshausen's Alum Bay record refers to a leaf.
Occurrence: Eocene (London Clay): England (Sheppey).

Cupanoides tumidus Bowerbank.

1840 **Cupanoides tumidus** Bowerbank, p. 72, pl. XI, f. 13—17.
1850 **Cupanoides tumidus** Bowb.: Unger, p. 458.
1852 **Cupanoides tumidus** Bowb.: Massalongo, p. 26.
1861 **Cupanoides tumidus** Bowb.: Ettingshausen, p. 244.
1874 **Cupanoides tumidus** Bowb.: Schimper, p. 173.
1879 **Cupania tumida** (Bowb.) Ettingshausen, p. 395.
[1880 **Cupania tumida** (Bowb.): Ettingshausen, p. 235.]
1888 **Cupanoides tumidus** Bowb.: Schenk, p. 548, f. 312[4, 5].
Remarks: Ettingshausen in 1861, but not in 1879, included *C. inflatus* in this species. His Alum Bay record (1880) refers to a leaf.
Occurrence: Eocene (London Clay): England (Sheppey).

[**Cupanoides zanardinii** Massalongo.]

1858a **Cupanoides zanardinii** Massalongo, p. 102. [Not seen].
1858 **Cupanoides zanardinii** Mass.: Massalongo & Scarabelli, p. 361, pl. XXVI; pl. XXVII, f. 32, pl. XLIV, f. 1.
1885 **Cupanoides zanardinii** Mass.: Sacco, p. 277.
1893 **Cupanoides zanardinii** Mass.: Meschinelli & Squinabol, p. 365.
1896 **Laurus (?) tetrantheroides** Ettingshausen: Paolucci, p. 80.
1908 **Laurus tetrantheroides** Ett.: Principi, p. 50.
1916 **Laurus tetrantheroides** Ett.: Principi, p. 100.
Remarks: A leaf impression now accepted as a *Laurus*.
Occurrence: Miocene; Italy (Senigaglia).

Deinbollia Schumacher.

Deinbollia calophylla Gilg.

1920 **Deinbollia calophylla** Gilg: Menzel, p. 28.
Occurrence: ? Pleistocene; Kameroons.

Deinbollia cuneifolia Baker.

1920 **Deinbollia cuneifolia** Baker: Menzel, p. 28.
Occurrence: ? Pleistocene; Kameroons.

Deinbollia pycnophylla Gilg.

1920 **Deinbollia pycnophylla** Gilg or **reticulata** Gilg: Menzel, p. 28.
Occurrence: ? Pleistocene; Kameroons.

Djambioxylon Kräusel.

Djambioxylon sumatrense Kräusel.

1922 **Djambioxylon sumatrense** Kräusel, p. 272, pl. II, f. 2 pl. IV, f. 7; pl. V, f. 1, 6—8; pl. VII, f. 7—9, 12.
1923 **Djambioxylon sumatrense** Kräusel: den Berger, p. 148.

Remarks: Kräusel and den Berger both suggest that this wood may belong to the *Sapindaceae*.

Occurrence: Miocene; Sumatra.

Dodonaea Linnaeus.

Remarks: Berry (1916, p. 271) makes critical comments on several of the European species.

Dodonaea allemanica Heer.

1859 **Dodonaea allemanica** Heer, p. 64, pl. CXXI, f. 15.
1861 **Dodonaea allemanica** Heer: Ettingshausen, p. 243.
1874 **Dodonaea allemanica** Heer: Schimper, p. 177, pl. C, f. 21.
1888 **Dodonaea allemanica** Heer: Schenk, p. 551.

Remarks: Fruit.

Occurrence: Miocene; Baden (Oeningen).

Dodonaea anthracotheriana Massalongo.

1858 **Dodonaea anthracotheriana** Massalongo, p. 16.
1859 **Dodonaea anthracotheriana** Mass.: Massalongo, p. 95.
1893 **Dodonaea anthracotheriana** Mass.: Meschinelli & Squinabol, p. 367.

Remarks: Fruit.

Occurrence: Oligocene; Italy (Vicentino).

Dodonaea antiqua Ettingshausen.

1869 **Dodonaea antiqua** Ettingshausen, p. 28, pl. XLVI, f. 18.
1870 **Dodonaea antiqua** Ett.: Ettingshausen, p. 83.
1874 **Dodonaea antiqua** Ett.: Schimper, p. 175.
1885 **Dodonaea antiqua** Ett.: Engelhardt, p. 352, pl. XVIII, f. 5.
1888 **Dodonaea antiqua** Ett.: Ettingshausen, p. 343, pl. VII, f. 15.
1898 **Dodonaea antiqua** Ett.: Engelhardt, p. 105.
1903 **Dodonaea antiqua** Ett.: Menzel, p. 17.
1911 **Dodonaea antiqua** Ett.: Kafka, pp. 29, 42, 63.

Remarks: Leaf.

Occurrence: Upper Oligocene; Bohemia (Kundratiz, Preschen, Berand). Miocene: Styria (Leoben).

Dodonaea apocynophyllum Ettingshausen.

1869 **Dodonaea apocynophyllum** Ettingshausen, p. 28, pl. XLVI, f. 19, 20.
1874 **Dodonaea apocynophyllum** Ett.: Schimper, p. 175.
1877 **Dodonaea apocynophyllum** Ett.: Ettingshausen, p. 190, pl. XV, f. 23.
1879 **Dodonaea apocynophyllum** Ett.: Engelhardt, p. 296.
1891c **Dodonaea apocynophyllum** Ett.: Engelhardt, p. 185, pl. XII, f. 25.
1911 **Dodonaea apocynophyllum** Ett.: Kafka, pp. 29, 42.

Remarks: A leaf species, but in 1877 Ettingshausen used the same name for a fruit. Principi (1916, p. 138) thinks that it should probably be included in *D. salicites* Ett.

Occurrence: Oligocene and Miocene; Bohemia (Bilin basin), Carniola (Sagor).

[Dodonaea bilinicus.]

1911 "Dodonaea bilinicus Ett.": Kafka, p. 63.

Remarks: Presumably a mistake for *Sapindus bilinicus* Ett.

Dodonaea confusa Saporta.

1863 **Dodonaea confusa** Saporta, p. 86, pl. X, f. 3.
1874 **Dodonaea confusa** Sap.: Schimper, p. 176.

Remarks: Fruit. "Correctly identified" (Berry 1916, p. 271).

Occurrence: Oligocene; France (St. Zacharie).

[Dodonaea cupanoides.]

1911 "Dodonaea cupanoides Ett.": Kafka, p. 63.

Remarks: Apparently a mistake for *Sapindus cupanioides* Ett.

Dodonaea cycloptera Saporta.

1863 **Dodonaea cycloptera** Saporta, p. 87, pl. X, f. 4.
1874 **Dodonaea cycloptera** Sap.: Schimper, p. 176, pl. C, f. 23, 24.

Remarks: Fruit. "Correctly identified" (Berry 1916, p. 271).

Occurrence: Oligocene; France (St. Zacharie).

Dodonaea emarginata Heer.

1859 **Dodonaea emarginata** Heer, p. 301.
1874 **Dodonaea emarginata** Heer: Schimper, p. 177.

Remarks: Fruit.

Occurrence: Miocene; Bavaria (Bischoffsheim).

Dodonaea helvetica Keller.

1896 **Dodonaea helvetica** Keller, p. 317, pl. XI, f. 10.

Occurrence: Miocene; Switzerland (St. Gallen).

Dodonaea knowltoni Berry.

1916 **Dodonaea knowltoni** Berry, p. 271, pl. LXIV, f. 3.

Remarks: Well-preserved fruits, nearest to the living *D. viscosa* L.

Occurrence: Eocene (Lagrange); Tennessee.

Dodonaea orbiculata Heer.

1859 **Dodonaea orbiculata** Heer, p. 65, pl. CXXI, f. 17.
1861 **Dodonaea orbiculata** Heer: Ettingshausen, p. 243.
1874 **Dodonaea orbiculata** Heer: Schimper, p. 177, pl. C, f. 25.
1883 **Dodonaea orbiculata** Heer: Steger, p. 24.

Remarks: Fruit.

Occurrence: Miocene; Baden (Oeningen).

[**Dodonaea prae-salicites** Ettingshausen.]

1880 Dodonaea prae-salicites Ettingshausen, p. 235.
Remarks: Nomen nudum.
Occurrence: Eocene; England (Alum Bay).

Dodonaea prisca Weber.

1851 **Dodonaea prisca** Weber, p. 403 (nomen).
1852 **Dodonaea prisca** Weber, p. 199, pl. XXII, f. 8.
1853 **Dodonaea prisca** Weber: Ettingshausen, p. 96.
1855 **Dodonaea prisca** Weber: Wessel & Weber, p. 120.
1861 **Dodonaea prisca** Weber: Ettingshausen, p. 243.
1874 **Dodonaea prisca** Weber: Schimper, p. 176.
1888 **Dodonaea prisca** Weber: Schenk, p. 553, f. 314[10].
1926 **Dodonaea prisca** Weber: Wilckens, p. 37.
Remarks: Leaf and fruit.
Occurrence: Upper Oligocene and Lower Miocene; Rhineland (Rott, Quegstein, Allrott, etc.). ? Tyrol (Häring) and Styria (Sotzka).

Dodonaea pteleaefolia (Weber) Heer.

1851 **Rhus pteleaefolia** Weber, p. 403 (nomen).
1852 **Rhus pteleaefolia** Weber, p. 213, pl. XXIII, f. 13.
1855 **Rhus pteleaefolia** Weber: Wessel & Weber, p. 156, pl. XXVIII, f. 7.
1858 **Rhus pteleaefolia** Weber: Ludwig, p. 149, pl. XXX, f. 4.
1858a **Pyrus ovatifolia** Ludwig, p. 160, pl. XXXV, f. 14. (teste Schindehütte).
1859 **Rhus pteleaefolia** Weber: Massalongo, p. 104.
1859 **Dodonaea pteleaefolia** (Weber) Heer, p. 64, pl. CXXI, f. 9—12.
1860 **Rhus pteleaefolia** Weber: Ludwig, p. 140, pl. LIV, f. 8.
1861 **Dodonaea pteleaefolia** (Weber): Ettingshausen, p. 243.
1874 **Dodonaea pteleaefolia** (Weber): Schimper, p. 175, pl. C, f. 20.
1881 **Dodonaea pteleaefolia** (Weber): Engelhardt, p. 311, pl. XVI, f. 14.
1888 **Dodonaea pteleaefolia** (Weber): Schenk, p. 551.
1891c **Dodonaea pteleaefolia** (Weber): Engelhardt, p. 184, pl. XII, f. 11, 12, 17, 20.
1893 **Dodonaea pteleaefolia** (Weber): Meschinelli & Squinabol, p. 367.
1907 **Dodonaea pteleaefolia** (Weber): Schindehütte, p. 59.
1914 **Dodonaea pteleaefolia** (Weber): Principi, p. 184.
1916 **Dodonaea pteleaefolia** (Weber): Principi, p. 137, pl. LXI, f. 3.
1921 **Dodonaea pteleaefolia** (Weber): Principi, p. 92.
1926 **Dodonaea** (?) **pteleaefolia** (Weber): Principi, p. 78, pl. VIII, f. 28.
1926 **Dodonaea pteleaefolia** (Weber): Wilckens, p. 37.
Remarks: Both leaves and fruits have been referred to this species. The leaves were compared by Heer with those of the living *D. viscosa*.
Berry and Principi express some doubts as to the certainty of the generic attribution.
Occurrence: Oligocene; Rhineland (Rott, etc.), Italy (Chiavon, S. Giustina). Miocene; Rhineland, Hessen (Eichelskopf), Switzerland (Wangen etc.), Bohemia (Grasseth, Dux).

Dodonaea radobojensis Ettingshausen.

1870a **Dodonaea radobojensis** Ettingshausen, p. 890, pl. I, f. 17.
1874 **Dodonaea radobojensis** Ett.: Schimper, p. 175.
Remarks: Leaf.
Occurrence: Miocene (Aquitanian); Croatia (Radoboj).

Dodonaea salicites Ettingshausen.

1853 **Dodonaea salicites** Ettingshausen, p. 68, pl. XXIII, f. 36—43.
1859 **Dodonaea salicites** Ett.: Heer, p. 299.
1861 **Dodonaea salicites** Ett.: Ettingshausen, p. 243.
1869 **Dodonaea salicites** Ett.: Ettingshausen, p. 28, pl. XLVII, f. 11.
1874 **Dodonaea salicites** Ett.: Schimper, p. 175.
1876 **Dodonaea salicites** Ett.: Engelhardt, p. 390, pl. VII, (XXII), f. 14.
1877 **Dodonaea salicites** Ett.: Ettingshausen, p. 190.
1879 **Dodonaea salicites** Ett.: Sandberger, p. 180.
1888 **Dodonaea salicites** Ett.: Schenk, p. 552, f. 314[9].
1891a **Dodonaea salicites** Ett.: Engelhardt, p. 37.
1891c **Dodonaea salicites** Ett.: Engelhardt, p. 185, pl. XII, f. 6, 7.
1898 **Dodonaea salicites** Ett.: Engelhardt, p. 105.
1911 **Dodonaea salicites** Ett.: Kafka, pp. 29, 53, 63.
1911 **Dodonaea salicites** Ett.: Engelhardt, p. 379, pl. XLI, f. 64.
1914 **Dodonaea salicites** Ett.: Principi, p. 184.
1916 **Dodonaea salicites** Ett.: Principi, p. 138, pl. LXI, f. 4 5.
1922 **Dodonaea salicites** Ett.: Engelhardt, p. 95, pl. XXXII, f. 6.
Remarks: According to Berry (1916, p. 271), this is correctly determined. Principi (1916) compares it with the living *D. laurifolia*, and thinks that *D. apocynophyllum* should probably be united with it. Ettingshausen includes both leaves and fruits.
Occurrence: Eocene; Hessen (Messel). Oligocene; Tyrol (Häring), Carniola (Sagor), Italy (S. Giustina), Bohemia (Kutschlin, Berand etc.), Hessen (Florsheim). Miocene; Bohemia (Holaikluk), Rhone (Sieblos).

Dodonaea saportana Laurent.

1899 **Dodonaea saportana** Laurent, p. 127, pl. XIII, f. 9.
Remarks: Fruit. "The best preserved fossil species heretofore noted" (Berry, 1916, p. 271).
Occurrence: Oligocene; France (Célas).

Dodonaea sotzkiana Ettingshausen.

1851 **Celastrus elaeanus** Unger (pars) pl. LI, f. 21.
1858 **Dodonaea sotzkiana** Ettingshausen, pp. 504, 535.
1861 **Dodonaea sotzkiana** Ett.: Ettingshausen, p. 243.
1874 **Dodonaea sotzkiana** Ett.: Schimper, p. 174.
Remarks: Leaf.
Occurrence: Oligocene (Chattian); Styria (Sotzka).

[**Dodonaea subglobosa** Ettingshausen.]

1880 **Dodonaea subglobosa** Ettingshausen, p. 235.
1883 **Dodonaea subglobosa** Ett.: Crié, p. 612.
Remarks: Nomen nudum. In Ettingshausen's list of Alum Bay plants. and also recorded by Crié from the Eocene of Sarthe, but apparently never figured.

Dodonaea vera Hollick & Berry.

1924 **Dodonaea vera** Hollick & Berry, p. 80, pl. VII, f. 11—13.
Occurrence: Late Tertiary; Brazil (Bahia).

Dodonaea vetusta Heer.

1859 **Dodonaea vetusta** Heer, p. 64, pl. CXXI, f. 13, 14.
1861 **Dodonaea vetusta** Heer: Ettingshausen, p. 243.
1874 **Dodonaea vetusta** Heer: Schimper, p. 174.
1890 **Dodonaea cf. vetusta** Heer: Mieg, Bleicher & Fliche, p. 418.
Occurrence: Miocene; Switzerland (Monod).

Dodonaea viscosaformis Berry.

1922 **Dodonaea viscosaformis** Berry (in Singewald & Berry), pp. 42, 107, pl. VII, f. 17.
Occurrence: Pliocene; Bolivia (Corocoro and Potosi).

Dodonaea viscosoides Berry.

1914 **Dodonaea viscosoides** Berry, p. 142, pl. XXVIII, f. 4—8.
1924 **Dodonaea viscosoides** Berry: Berry, pp. 70, 176, pl. XII f. 7, pl. XXXIV, f. 11—13, pl. XLII, f. 1.
Occurrence: Eocene (Jackson, Yegua, Lisbon); Georgia, Louisiana, Missouri.

Dodonaea wilcoxiana Berry.

1916 **Dodonaea wilcoxiana** Berry, p. 270, pl. XXXVIII, f. 2.
Remarks: Leaf, very similar to *D. viscosoides*; also resembles *Gaylussacia tertiaria* Engelhardt *(Ericaceae)* from Bolivia.
Occurrence: Eocene; Mississippi.

Dodonaea sp.

1883 **Dodonaea** sp.: Lesquereux, p. 182, pl. XXXVI, f. 5.
1888 **Dodonaea** sp.: Schenk, p. 552, f. 314[8].
1908 ?**Ptelea modesta** Cockerell, p. 98.
1916 **Dodonaea** sp.: Knowlton, p. 276.
Remarks: Berry (1914, p. 143) suggests that this fruit belongs to *Ulmus*. Knowlton (1916, 1919) retains it in *Dodonaea*.
Occurrence: Miocene; Colorado (Florissant).

Dodonaea sp.

1892 **Dodonaea** sp.: Bleicher & Fliche, p. 185.
Occurrence: Tertiary (Bornkappel Beds); Alsace (Mulhouse).

[**Dodonaea** sp.]

Depape (1922. p. 216) states that *Dodonaea* sp., recorded by Boulay from the Pliocene of St. Marcel, is a leaf of *Notelea excelsa* Webb. (We have not seen Boulay's original reference.)

Dodonaeites Saporta.

Dodonaeites decaisnei Saporta.

1863 Dodonaea or Fraxinus Gervais, p. 318, pl. X, f. 8.
1865a Dodonaeites decaisnei Saporta, p. 184, pl. IX, f. 13.
1888 Dodonaeites decaisneana [sic] Saporta: Schenk, p. 552.

Remarks: Fruit. According to Reid and Chandler (Bembridge Flora 1926, p. 149) the difficulties in the ascription of this species to *Dodonaea* are insuperable.

Occurrence: Oligocene; S. France (Armissan).

Enourea Aublet.

Enourea tetraceraefolia Massalongo.

1858a Enourea tetraceraefolia Massalongo, p. 103 (Not seen).
1858 Enourea tetraceraefolia Mass.: Massalongo & Scarabelli, p. 363, pl. XXXV, f. 17, a, b, c.
1893 Enourea tetraceraefolia Mass.: Meschinelli & Squinabol, p. 367.

Occurrence: Miocene; Italy (Sinigaglia).

Eriocoelum Hooker f.

Eriocoelum cf. macrocarpum Gilg.

1920 Eriocoelum cf. macrocarpum Gilg: Menzel, p. 28.

Occurrence: ? Pleistocene; Kameroons.

Eriocoelum racemosum Radlkofer.

1920 Eriocoelum racemosum Radlkofer: Menzel, p. 28.

Occurrence: ? Pleistocene; Kameroons.

Euphoria Comm. ex Juss.

[Euphoria jovis (Unger).]

Synonym of *Nephelium jovis*, q. v.

[Euphoria phaetontis Massalongo.]

Synonym of *Euphoriopsis phaetontis*, q. v.

Euphoriaecarpum Menzel 1913.

Euphoriaecarpum litchiforme Menzel.

1913 Euphoriaecarpum litchiforme Menzel, p. 43, pl. IV, f. 28, 29.

Remarks: A fragment of woody fruit wall, compared by Menzel with recent species of *Euphoria* and *Litchi*; also a seed, particularly resembling that of *Litchi*.

Occurrence: Miocene (?Lower); Lower Rhine (Herzogenrath).

Euphoriopsis Massalongo 1852, p. 12.

[**Euphoriopsis berica** Massalongo.]

1852 **Euphoriopsis berica** Massalongo, p. 16, pl. III, f. 8, 9.
1859 **Euphoriopsis berica** Mass.: Massalongo, p. 94.
1867 **Euphoriopsis berica** Mass.: Molon, p. 84.

Remarks: Heer (1856, p. 63) says that Massalongo's fig. 8 probably belongs to *Ficus multinervis* Heer, and that fig. 9 is probably a *Rhamnus*.

Occurrence: Oligocene; Italy (Salcedo).

Euphoriopsis phaetontis (Massalongo).

1851 **Euphoria phaetontis** Massalongo, p. 192.
1852 **Euphoriopsis phaetontis** (Mass.) Massalongo, p. 14, pl. II, f. 5.
1859 **Euphoriopsis phaetontis** (Mass.): Massalongo, p. 93.
1893 **Euphoriopsis phaetontis** (Mass.): Meschinelli & Squinabol, p. 366.
1921 **Euphoriopsis** (?) **phaetontis** (Mass.): Principi, p. 92.
1926 **Euphoriopsis** (?) **phaetontis** (Mass.): Principi, p. 122.

Remarks: Listed by Principi (1926) with a query, but without further comment.

Occurrence: Oligocene; Italy (Chiavon).

Euphoriopsis scopoliana Massalongo.

1852 **Euphoriopsis scopoliana** Massalongo, p. 15, pl. II, f. 6. 7.
1859 **Euphoriopsis scopoliana** Mass.: Massalongo, p. 94.
1893 **Euphoriopsis scopoliana** Mass.: Meschinelli & Squinabol, p. 366.

Occurrence: Eocene; Italy (Monte Bolca).

Euphoriopsis torriana Massalongo.

[1857 **Rhamnus eridani** Unger: Massalongo, p. 26.]
1858a **Euphoriopsis torriana** Massalongo, p. 103 [Not seen].
1858 **Euphoriopsis torriana** Mass.: Massalongo & Scarabelli, p. 362, pl. XXVI—XXVII, f. 33, pl. XLIII, f. 2.
1893 **Euphoriopsis torriana** Mass.: Meschinelli & Squinabol, p. 366.

Occurrence: Miocene; Italy (Sinigaglia).

Fraasia Unger.

Fraasia sapindoides Unger.

1850 **Fraasia sapindoides** Unger, p. 457.
1852 **Fraasia sapindoides** Unger: Massalongo, p. 24.
1861 **Fraasia sapindoides** Unger: Ettingshausen, p. 244.
1890 **Fraasia sapindoides** Unger: Kaiser, p. 26.

Remarks: Petrified wood, apparently never figured. Kaiser gives a reference to "Unger, Litteraturbericht der zool. botan. Gesellsch. zu Wien 1850—53, p. 267" but we have been unable to trace this.

Occurrence: Tertiary; probably Hungary.

Glossolepis Gilg.

Glossolepis macrobotrys Gilg.

1920 **Glossolepis macrobotrys** Gilg: Menzel, p. 28.
Occurrence: ?Pleistocene; Kameroons.

Koelreuteria Laxmann.

For a review of the fossil species, see Edwards (1927).

Koelreuteria alleni (Lesquereux) Edwards.

1873 **Ophioglossum alleni** Lesquereux, p. 371.
1878 **Salvinia alleni** (Lesq.) Lesquereux, p. 65, pl. V, f. 11.
1883 **Salvinia alleni** (Lesq.): Lesquereux, p. 136, pl. XXI, f. 10, 11.
1894 **Tmesipteris alleni** (Lesq.) Hollick, p. 256, pl. CCV, f. 12.
1896 **Salvinia alleni** (Lesq.): Lindgren & Knowlton, p. 889.
1908 **Tmesipteris alleni** (Lesq.): Cockerell, p. 77.
1913 **Carpolithes alleni** (Lesq.) Cockerell, p. 500.
1916 **Tmesipteris alleni** (Lesq.): Knowlton, p. 247.
1919 **Phyllites alleni** (Lesq.) Florin, p. 254.
1923 **Carpolithes alleni** (Lesq.): Hollick, p. 211. pl. X, f. 6—11; pl. XI, f. 1—3.
1927 **Koelreuteria alleni** (Lesq.) Edwards, p. 109.
Remarks: Impressions of fruits. For accounts of this species see particularly Hollick (1923) and Edwards (1927).
Occurrence: Miocene; Colorado (Florissant).

Koelreuteria bettiana Massalongo.

1852 **Koelreuteria bettiana** Massalongo, p. 18, pl. IV, f. 13.
1859 **Koelreuteria bettiana** Mass.: Massalongo, p. 94.
1893 **Koelreuteria bettiana** Mass.: Meschinelli & Squinabol, p. 364.
1921 **Koelreuteria bettiana** Mass.: Principi, p. 92.
1926 **Koelreuteria** (?) **bettiana** Mass.: Principi, p. 76, pl. VI, f. 22.
Remarks: The generic reference of these leaves is uncertain, and Principi considers that they might belong to *Rhus*.
Occurrence: Oligocene; Italy (Chiavon).

Koelreuteria borealis Heer.

1876 **Koelreuteria borealis** Heer, p. 89, pl. XXV, f. 5.
1888 **Koelreuteria borealis** Heer: Schenk, p. 549.
Remarks: Leaf of doubtful affinity.
Occurrence: Tertiary; Spitsbergen.

[Koelreuteria corcorifolia Massalongo.]

1859 **Koelreuteria corcorifolia** Massalongo, p. 94.
Remarks: Nomen nudum.

[Koelreuteria gigas Massalongo.]

1859 **Koelreuteria gigas** Massalongo, p. 94.
Remarks: Nomen nudum.

Koelreuteria macroptera (Kovats) Edwards.

1856b **Ptelea macroptera** Kovats, p. 41, pl. I, f. 2.
1870 **Ptelea macroptera** Kov.: Unger, p. 14, pl. V, f. 1.
1874 **Ptelea macroptera** Kov.: Schimper p. 287.
1888 **Ptelea macroptera** Kov.: Schenk, p. 531, f. 308[6].
1927 **Koelreuteria macroptera** (Kovats) Edwards, p. 112.

Remarks: Fruit impressions. Schenk points out that this cannot be a *Ptelea*.

Occurrence: Miocene; Hungary (Tallya and Szanto).

Koelreuteria maffejana Massalongo.

1852 **Koelreuteria maffejana** Massalongo, p. 19, pl. IV, f. 14.
1859 **Koelreuteria maffejana** Mass.: Massalongo, p. 94.
1893 **Koelreuteria maffejana** Mass.: Meschinelli and Squinabol, p. 364.

Remarks: A pinnate leaf, not identifiable from Massalongo's figure.

Occurrence: Eocene; Italy (Monte Bolca).

Koelreuteria oeningensis Heer.

1859 **Koelreuteria oeningensis** Heer, p. 63, pl. CXXI, f. 18—20.
1861 **Koelreuteria oeningensis** Heer: Ettingshausen, p. 243.
1870 **Koelreuteria cf. oeningensis** Heer: Würtenberger, p. 575.
1873 **Koelreuteria oeningensis** Heer: Engelhardt, p. 31, pl. XII, f. 12.
1874 **Koelreuteria oeningensis** Heer: Schimper, p. 170, pl. C, f. 33. 34.
1880 **Koelreuteria "olviagensis Heer"**: Laube, p. 278.
1888 **Koelreuteria oeningensis** Heer: Schenk, p. 549, 553, f. 314[3].
1888 **Koelreuteria oeningensis** Heer: Lugeon, p. 174.
1911 **Koelreuteria "olviagensis Heer"**: Kafka, p. 63.
1916 **Koelreuteria cf. oeningensis** Heer: Sangiorgi, p. 293 pl. XV, f. 19.
1927 **Koelreuteria oeningensis** Heer: Edwards, p. 111.

Remarks: Heer's leaves may quite possibly be rightly referred to *Koelreuteria*, but the other records cannot be accepted without careful examination.

Friedrich (1883, p. 253) criticizes Engelhardt's reference of a leaf from Göhren to this species.

Laube's record (with the name mis-spelt) from Sulloditz, Bohemia, is unaccompanied by figures and is valueless. Sangiorgi's specimen from the Pliocene of Imola is very doubtful. Lugeon records "une belle feuille" from Langhian (Middle Miocene) beds of the valley of the Borde, but does not figure it.

Occurrence: Miocene; Oeningen, Baden.

Koelreuteria prisca Massalongo.

1852 **Koelreuteria prisca** Massalongo, p. 17, pl. III, f. 10—12.
1859 **Koelreuteria prisca** Mass.: Massalongo, p. 94.
1893 **Koelreuteria prisca** Mass.: Meschinelli & Squinabol, p. 365.
1921 **Koelreuteria prisca** Mass.: Principi, p. 92.
1926 **Koelreuteria prisca** Mass.: Principi, p. 76, pl. VIII, f. 16.

Remarks: Heer (1859, p. 182), after seeing the originals of Massalongo's figs. 11 and 12, abandoned an earlier reference of these leaves to *Planera ungeri*. In 1866 however, Ettingshausen again referred them to *Planera*, and Nagalhard (Foss. Cat.,

pars 10) includes them in the synonymy of *Zelkova ungeri*. In view of Heer's statement that the specimens could scarcely be reconciled with the figures, it would seem best to regard these leaves as unidentifiable. Massalongo's fig. 10 is supposed to be a fruit, but is not recognizable.

Principi (1926) figures an imperfect leaf under this name, but admits that the attribution is uncertain, and also compares it with *Rhus pyrrhae*.

Occurrence: Oligocene; Italy (Chiavon, Salcedo).

Koelreuteria (?) reticulata (Ettingshausen) Edwards.

1854 **Dalbergia reticulata** Ettingshausen, p. 813, pl. IV f. 5.
1859 **Salvinia reticulata** (Ett.) Heer, p. 156, pl. CXLV, f. 16.
1869 **Salvinia reticulata** (Ett.): Schimper, p. 731.
1894 **Tmesipteris reticulata** (Ett.) Hollick, p. 256.
1904 **Salvinia reticulata** (Ett.): Brabenec, p. 1, pl. f. 1.
1919 **Phyllites reticulatus** (Ett.) Florin, p. 255 (Non Heer).
1923 **Salvinia reticulata** (Ett.): Hollick, p. 207, pl. X, f. 4, 5.
1927 **Koelreuteria? reticulata** (Ett.) Edwards, p. 111.

Remarks: Quite probably a fruit of *Koelreuteria*.

Occurrence: Miocene; Hungary (Tokay), Baden (Oeningen). Oligocene: Bohemia.

[**Koelreuteria ? serrata** Heer.]

1878 **Koelreuteria? serrata** Heer, p. 52, pl. XIV, f. 10.

Remarks: Even Heer admits that this is "sehr zweifelhaft". It is an incomplete fragment, quite unidentifiable.

Occurrence: Miocene; Sakhalin.

[**Koelreuteria ulmifolia** Massalongo.]

1857 **Koelreuteria ulmifolia** Massalongo, p. 30.

Remarks: Later re-named *Cissus ulmifolia* by Massalongo (1858a, p. 80; Massalongo & Scarabelli 1858, p. 304, pl. I. f. 17, pl. XXVI. f. 8).

Koelreuteria vetusta Heer.

1859 **Koelreuteria vetusta** Heer, p. 63, pl. CXXVII, f. 39a.
1861 **Koelreuteria vetusta** Heer: Ettingshausen, p. 243.
1870 **Koelreuteria vetusta** Heer: Würtenberger, p. 575.
1874 **Koelreuteria vetusta** Heer: Schimper, p. 170.
1883 **Koelreuteria vetusta** Heer: Probst, p. 223.
1888 **Koelreuteria vetusta** Heer: Schenk, p. 549.
1927 **Koelreuteria vetusta** Heer: Edwards, p. 111.

Remarks: The venation differs from that of the living *K. paniculata* according to Schenk. The generic attribution is very doubtful. Würtenberger's and Probst's records are valueless.

Occurrence: Miocene; Oeningen.

Koelreuteria ?

1920 **Phyllites** cf. **Koelreuteria bipinnata** Franchet: Colani, p. 227, pl. IX, f. 4, 8.

Occurrence: Tertiary (?Mio-Pliocene); Yunnan (Totang).

Lychnodiscus Radlkofer.

Lychnodiscus grandifolius Radlkofer.

1920 Lychnodiscus grandifolius Radlk.: Menzel, p. 28.
Occurrence: ?Pleistocene; Kameroons.

Lychnodiscus pedicellaris Radlkofer.

1920 Lychnodiscus pedicellaris Radlk.: Menzel, p. 28.
Occurrence: ?Pleistocene; Kameroons.

Nephelites Deane, 1902, p. 60.

Nephelites berwickense Deane.

1920b Nephelites berwickense Deane, p. 23, pl. VI, f. 9.
Occurrence: Tertiary; Victoria (Berwick).

Nephelites denticulata Deane.

1902 Nephelites denticulata Deane, p. 65, pl. XVI, f. 1.
Occurrence: Tertiary; New South Wales (Bungonia).

Nephelites equidentata Deane.

1902 Nephelites equidentata Deane, p. 61, pl. XV, f. 3.
Remarks: Deane compares this species, and also Ettingshausen's *Quercus dampieri*, with the living *Nephelium leiocarpum* F. v. M.
Occurrence: Tertiary; New South Wales (Wingello).

Nephelites ovata Deane.

1902 Nephelites ovata Deane, p. 61, pl. XVII, f. 3.
Occurrence: Tertiary; New South Wales (Wingello).

Nephelites quercifolia Deane.

1902b Nephelites quercifolia Deane, p. 22, pl. V, f. 11.
Occurrence: Tertiary; Victoria (Berwick).

Nephelites ulrichi Deane.

1902a Nephelites ulrichi Deane, p. 16, pl. I, f. 3.
1921 Nephelites ulrichi Deane: Chapman, p. 118, pl. VIII, f. 4.
Remarks: A worthless fragment.
Occurrence: Tertiary; Victoria (Pitfield).

Nephelites sp.?

1902b Nephelites sp.? Deane, p. 22, pl. VI, f. 10.
Occurrence: Tertiary; Victoria (Berwick).

Nephelium Linnaeus.

Nephelium jovis Unger.

1867 Nephelium jovis Unger, p. 74, pl. XII, f. 24—27.
1874 Nephelium jovis Unger: Schimper, p. 169.

[1874 **Nephelium jovis** Unger: Capellini, p. 581, pl. V, f. 20.]
1888 **Nephelium jovis** Unger: Schenk, pp. 549, 553, f. 314[4, 5].
1893 **Euphoria (Nephelium) jovis** (Unger): Meschinelli & Squinabol, p. 364.

Remarks: Fruit and leaves, strongly suggesting the recent *Nephelium* and *Litchi*.

The Italian Miocene leaf figured under this name by Capellini should be excluded. Capellini himself suggested that it was very likely a *Celastrus*.

Occurrence: Miocene (Aquitanian); Kumi, Euboea.

Nephelium verbeekianum Geyler.

1877 **Nephelium verbeekianum** Geyler, p. 83, pl. I, f. 6.
1884 **Phyllites geyleri** Ettingshausen, p. 382.

Remarks: Geyler compared his leaf with *Sapindus anceps*, but admitted that the preservation was not good. Kräusel (1925, p. 335) states that it is indeterminable.

Occurrence: Tertiary; Borneo.

Pancovia Willdenow.

Pancovia pedicellaris Radlkofer.

1920 **Pancovia pedicellaris** Radlkofer: Menzel, p. 28.

Occurrence: ? Pleistocene; Kameroons.

Pancovia subcuneata Radlkofer.

1920 **Pancovia subcuneata** Radlkofer: Menzel, p. 28.

Occurrence: ? Pleistocene; Kameroons.

Paullinia Linnaeus.

Paullinia ambigua Massalongo.

1852 **Paullinia ambigua** Massalongo, p. 23, pl. VI, f. 26.
1859 **Paullinia ambigua** Mass.: Massalongo, p. 95.
1893 **Paullinia ambigua** Mass.: Meschinelli & Squinabol, p. 358.
1921 **Paullinia ambigua** Mass.: Principi, p. 91.
1926 **Paullinia ambigua** Mass.: Principi, p. 70, pl. VIII, f. 15.

Remarks: In 1856 Heer referred this species and *P. chiavonica* to *Planera ungeri*, but after examining the original specimens, and finding that they did not agree with the figures, he abandoned this reference (Heer 1859, p. 182). Nagalhard in the Fossilium Catalogus, pars 10 (1922) includes them both in the synonymy of *Zelcova ungeri*. Principi's figure of a fragmentary leaf is not convincing. These species cannot be regarded as good evidence for the occurence of *Paullinia* in Italian Tertiary Beds.

Occurrence: Oligocene; Italy (Chiavon).

Paullinia chiavonica Massalongo.

1851 **Quercus bilinica** (non Unger) Massalongo, p. 129.
1852 **Paullinia chiavonica** Massalongo, p. 20, pl. IV, f. 15—18, pl. V, f. 19.
1852 **Paullinia protogaea** Massalongo, p. 21, pl. V, f. 20—22.
1859 **Paullinia chiavonica** Mass.: Massalongo, p. 94.
1893 **Paullinia chiavonica** Mass.: Meschinelli & Squinabol, p. 359.

1921 **Paullinia chiavonica** Mass.: Principi, p. 91.
1926 **Paullinia chiavonica** Mass.: Principi, p. 71, pl. VIII, f. 7—10, 18.

Remarks: See *P. ambigua*. Compared by Principi with "*Koelreuteria prisca* Heer" (presumably, from the reference given, he means *K. oeningensis*). The resemblance to *Planera ungeri* is also noted.

Occurrence: Oligocene; Italy (Chiavon).

Paullinia dispersa Saporta.

1865a **Paullinia dispersa** Saporta, p. 183, pl. VIII, f. 7.
1874 **Paullinia dispersa** Sap.: Schimper, p. 162, pl. C f. 26.
1888 **Paullinia dispersa** Sap.: Schenk, p. 549.

Remarks: Somewhat resembles *Rhus pyrrhae* and other fossil species of *Rhus*, according to Saporta, who compares it with living species of *Serjania*, *Paullinia* and *Schmidelia*, particularly with *Schmidelia (Allophyllus) fulvinervis*.

Occurrence: Oligocene; S. France (Armissan).

Paullinia furcinervis Velenovsky.

1881 **Paulinia** [sic] **furcinervis** Velenovsky, p. 39, pl. VIII, f. 20.

Occurrence: Miocene; Bohemia (Laun).

Paullinia germanica Unger.

1866 **Paullinia germanica** Unger, p. 52, pl. XVI, f. 8.
1874 **Paullinia germanica** Unger: Schimper, p. 162.
1888 **Paullinia germanica** Unger: Schenk, p. 549.

Remarks: "Gehört schwerlich einer Sapindacee an und ist überhaupt kein fiederblatt". (Schenk).

Occurrence: Oligocene; Wetterau (Salzhausen).

[**Paullinia italica** Massalongo.]

1859 **Paullinia italica** Massalongo, p. 95.

Remarks: Nomen nudum.

[**Paullinia maraschiniana** Massalongo.]

1852 **Paullinia maraschiniana** Massalongo, p. 22, pl. VI, f. 25.
1859 **Paullinia maraschiniana** Mass.: Massalongo, p. 95.
1867 **Paullinia maraschiniana** Mass.: Molon, p. 84.
1893 **Paullinia maraschiniana** Mass.: Meschinelli & Squinabol, p. 359.

Remarks: Referred to *Rhus pyrrhae* Unger by Principi (1926, p. 68).

Occurrence: Oligocene; Italy (Vicetino).

Paullinia pinnata Linnaeus.

1920 **Paullinia pinnata** Linnaeus: Menzel, p. 28.

Occurrence: ? Pleistocene; Kameroons.

[**Paullinia protogaea** Massalongo.]

Synonym of *Paullinia chiavonica*, q. v.

[**Paullinia rubifolia** Massalongo.]

1859 **Paullinia rubifolia** Massalongo, p. 95.
Remarks: Nomen nudum.

Paullinia schimperi Principi.

1921 **Paullinia schimperi** Principi, p. 91 (nomen).
1926 **Paullinia schimperi** Principi, p. 71, pl. VIII, f. 21.
Remarks: Compared by Principi with *Koelreuteria maffejana* Mass., and with the living *P. cururu* and *P. pinnata*
Occurrence: Oligocene; Italy (Chiavon).

[**Paullinia vivianica** Massalongo.]

1852 **Paullinia vivianica** Massalongo, p. 21, pl. VI, f. 23, 24.
1859 **Paullinia vivianica** Mass.: Massalongo, p. 94.
1893 **Paullinia vivianica** Mass.: Meschinelli & Squinabol, p. 359.
Remarks: Referred to *Rhus pyrrhae* Unger by Principi (1926, p. 68).
Occurrence: Oligocene; Italy (Chiavon).

[? **Paullinia.**]

1895 **Phyllites gouareoides** Engelhardt, p. 22, pl. III, f. 2.
Remarks: Engelhardt suggests a relationship to *Paullinia (P. affinis* St. Hil.).
Occurrence: Tertiary; Ecuador.

[**Pentacoila** F. v. Mueller, 1877a, p. 179.]

Remarks: Von Mueller states that "this genus ought probably to be placed near *Penteune*". Later he thought that its nearest affinity was with his *Tricoilocaryon*, and both these genera were tentatively referred to the *Sapindaceae.*

[**Pentacoila gulgongensis** Mueller.]

1877a **Pentacoila gulgongensis** Mueller, p. 179.
1878 (Sept.) **Pentacoila gulgongensis** Mueller, p. 40, pl. XV, f. 19, 20.
1883 **Pentacoila gulgongensis** Mueller, p. 12, pl. XV, f. 19, 20.
Occurrence: Pliocene; New South Wales.

[**Penteune** Mueller, 1873, p. 41.]

Remarks: Regarded by von Mueller as probably Sapindaceae. Deane, however (1925, p. 490) compares it with *Owenia* (Meliaceae).

[**Penteune allporti** Mueller.]

1880 **Penteune allporti** Mueller: Johnston, p. 85.
1882 **Penteune allporti** Mueller in Johnston, expl. of f. 40, 41.
1888 **Penteune allporti** Mueller: Johnston, pp. 227, 278, 285.
Remarks: The only description we have traced is the following from Johnston (1882) "A species of *Penteune* (calcareous), probably *P. allporti* F. v. M., n. s. for [? from] Geilston Travertine. Fig. 41 has been shown with six valves, by mistake, should be five nearly equal divisions."
Occurrence: Tertiary; Tasmania.

[Penteune brachyclinis Mueller.]

1873 Penteune brachyclinis Mueller, p. 41, pl. VIII, f. 1—9.
1874a Penteune brachyclinis Mueller, p. 21, pl. VIII, f. 1—9.
Occurrence: Pliocene; Victoria.

[Penteune clarkei Mueller.]

1873 Penteune clarkei Mueller, p. 41, pl. VII, f. 1—10.
1874a Penteune clarkei Mueller, p. 21, pl. VII.
1880 Penteune clarkei Mueller: Johnston, p. 85.
1925 Penteune clarkei Mueller: Deane, p. 490, pl. LX, f. 1—3.
Remarks: Compared by Deane with *Owenia venosa* (Meliaceae).
Occurrence: Pliocene; Victoria and New South Wales.

[Penteune trachyclinis Mueller.]

1873 Penteune trachyclinis Mueller, p. 41, pl. VIII, f. 10—17.
1874a Penteune trachyclinis Mueller, p. 22, pl. VIII, f. 10—17.
Occurrence: Pliocene; Victoria.

Phialodiscus Radlkofer.

Phialodiscus myrmecophilus Gilg.

1920 cf. Phialodiscus myrmecophilus Gilg: Menzel, p. 28.
Occurrence: ? Pleistocene; Kameroons.

Phyllites sp.

1883 Phyllites sp.: Nathorst, p. 212, pl. XIX, f. 7.
1884 Phyllites sp.: Ettingshausen, p. 862.
Remarks: Ettingshausen considers this to be *Sapindus*-probably *Sapindus undulatus*.
Occurrence: Tertiary; Japan.

[Phymatocaryon Mueller, 1871, p. 47.]

Remarks: Von Mueller considered that these fruits were probably Sapindaceous. Deane, however, in 1925 (p. 491) compared *P. mackayi* with *Elaeocarpus*. According to Berry the botanical position of *Phymatocaryon* is entirely problematical.

[Phymatocaryon angulare Mueller.]

1874a Phymatocaryon angulare Mueller, p. 23, pl. X, f. 1—4.
Occurrence: Pliocene; Victoria.

[Phymatocaryon bivalve Mueller.]

1877a Phymatocaryon bivalve Mueller, p. 180.
1879 Phymatocaryon bivalve Mueller: Mueller, p. 170, pl. III, f. 3.
1883 Phymatocaryon bivalve Mueller: Mueller, p. 9, pl. XV, f. 6—9.
1925 Phymatocaryon bivalve Mueller: Deane, p. 491, pl. LX, f. 4—6.
1926 Phymatocaryon bivalve Mueller: Berry, p. 183, figs. 1—3.
Occurrence: Pliocene; New South Wales, Victoria, New Zealand.

[Phymatocaryon mackayi Mueller.]

1871 **Phymatocaryon mackayi** Mueller, p. 47, pl. II, f. 1—15.
1874a **Phymatocaryon mackayi** Mueller: Mueller, p. 10, pl. II.
1883 **Phymatocaryon mackayi** Mueller: Mueller, p. 14.
1925 **Phymatocaryon mackayi** Mueller: Deane, p. 491, pl. LX, f. 13—16.

Remarks: Compared by Deane with *Elaeocarpus* spp.
Occurrence: Pliocene; Victoria, New South Wales, Tasmania.

Sapindaceae genus?

1915 Sapindaceae — Genus? C. & E. M. Reid, p. 112, pl. XI, f. 17.

Remarks: An incomplete fruit probably belonging to the *Paullinieae*.
Occurrence: Pliocene; Holland (Reuver).

Sapindoides Perkins, 1904, p. 206.

Established for sapindaceous fruits of uncertain affinity.

Sapindoides americanus (Lesquereux).

1853 [Fruit]: Hitchcock, f. 7, 8, p. 99.
1861 **Sapindus americanus** Lesquereux, p. 359.
1861a **Sapindus americanus** Lesq.: Lesquereux, p. 715, f. 142—145.
1904 **Sapindoides americanus** (Lesq.) Perkins, p. 207, pl. LXXX, f. 119, 140.
1905 **Sapindoides americanus** (Lesq.): Perkins, p. 508, pl. LXXXVI, f. 3.
1906 **Sapindoides americanus** (Lesq.): Perkins, p. 221, pl. LII, f. 3, pl. LVII, f. 14, 15. (The last two figures are labelled S. varius on the plate.)

Occurrence: Eocene; Vermont (Brandon).

Sapindoides cylindricus Perkins.

1904 **Sapindoides cylindricus** Perkins, p. 208, pl. LXXX, f. 131, 139.

Occurrence: Eocene; Vermont (Brandon).

Sapindoides medius Perkins.

1904 **Sapindoides medius** Perkins, p. 207, pl. LXXX, f. 130.
1905 **Sapindoides medius** Perkins: Perkins, p. 507, pl. LXXXVI, f. 1.
1906 **Sapindoides medius** Perkins: Perkins, pl. LII, f. 1.

Occurrence: Eocene; Vermont (Brandon).

Sapindoides minimus Perkins.

1904 **Sapindoides minimus** Perkins, p. 208, pl. LXXX, f. 127.

Occurrence: Eocene; Vermont (Brandon).

Sapindoides parva Perkins.

1904 **Sapindoides parva** Perkins, p. 207, pl. LXXX, f. 126.

Occurrence: Eocene; Vermont (Brandon).

Sapindoides peruvianus Berry.

1927 **Sapindoides peruvianus** Berry, p. 126, pl. XIX, f. 9, 9a.
Occurrence: Oligocene; Peru (Paita).

Sapindoides urceolatus Perkins.

1906 **Sapindoides urceolatus** Perkins, p. 220, pl. LVII, f. 11, 12.
Occurrence: Eocene; Vermont (Brandon).

Sapindoides varius Perkins.

1904 **Sapindoides varius** Perkins, p. 206, pl. LXXX, f. 116, 117, 122.
1905 **Sapindoides varius** Perkins: Perkins, p. 508, pl. LXXXVI, f. 2.
1906 **Sapindoides varius** Perkins: Perkins, pl. LII, f. 2.
Remarks: Figures 14 and 15 on plate LVII, Perkins 1906 are labelled *S. varius*, but are described on p. 221 as *S. americanus*.
Occurrence: Eocene; Vermont (Brandon).

Sapindoides vermontanus Perkins.

1904 **Sapindoides vermontanus** Perkins, p. 207, pl. LXXX, f. 132, 135.
Occurrence: Eocene; Vermont (Brandon).

Sapindophyllum Ettingshausen.

Sapindophyllum acuminatum Ettingshausen.

1869 **Sapindophyllum acuminatum** Ettingshausen, p. 27.
1911 **Sapindophyllum acuminatum** Ett.: Kafka, p. 29.
Remarks: Schimper (1874, p. 168) says that this and other species from Bilin described by Ettingshausen are very problematical. Schenk (1888, p. 551) also remarks that they are partly founded on incomplete and poorly preserved leaves.
Occurrence: Oligocene; Bohemia (Kutschlin).

Sapindophyllum apiculatum (Velenovsky).

1884 **Sapindus apiculatus** Velenovsky, p. 6, pl. VII, f. 1—8.
1888 **Sapindus apiculatus** Vel.: Schenk, p. 550.
1889 **Sapindophyllum apiculatum** (Vel.) Velenovsky, pp. 51, 54, 57.
1896 **Sapindus apiculatus** Vel.: Krasser, p. 131, pl. XII, f. 4.
1898a **Sapindus apiculatus** Vel.: Hollick, p. 133, pl. XIII, f. 1, 2.
1901 **Sapindus apiculatus** Vel.: Fritsch & Bayer, p. 137.
1903 **Sapindus apiculatus** Vel.: Berry, p. 84.
1906 **Sapindus apiculatus** Vel.: Berry, p. 139.
1906 **Sapindus apiculatus** Vel.: Hollick, p. 91, pl. XXXIII, f. 21.
Occurrence: Cretaceous (Cenomanian); Bohemia. Cretaceous (Magothy); New York, New Jersey.

Sapindophyllum brevior Saporta.

1894 **Sapindophyllum brevior** Saporta, p. 205, pl. XXXVII, f. 11. (S. brevius in explanation of plate).
Occurrence: Cenomanian; Portugal (Nazareth).

Sapindophyllum coriaceum Ettingshausen.

1887 Sapindophyllum coriaceum Ettingshausen, p. 187, pl. IX, f. 22, 23.
1890 Sapindophyllum coriaceum Ett.: Ettingshausen, p. 306, pl. XXXII, f. 22, 23.
Occurrence: Upper Cretaceous; New Zealand (Wangapeka, Nelson).

Sapindophyllum denticulatum Menzel.

1914 Sapindophyllum denticulatum Menzel, p. 61, pl. II, f. 16.
Occurrence: Miocene; Switzerland (Gnippon).

Sapindophyllum dubium Ettingshausen.

1869 Sapindophyllum dubium Ettingshausen, p. 27, pl. XLVI, f. 21.
Remarks: See *S. acuminatum.*
Occurrence: Miocene; Bohemia (Schichow).

[**Sapindiphyllum dubium** Nathorst, non Ett.]

1888 Sapindiphyllum dubium Nathorst, p. 212, pl. XXII, f. 5.
Remarks: Nathorst says that the relationship with *Sapindus* is uncertain and also compares the leaf with *Aesculus, Sterculia* and *Rhus.* The specific name is preoccupied by Ettingshausen, and the spelling *Sapindiphyllum* is merely a variant of the earlier *Sapindophyllum.* It is not worth while to make a new name for this dubious fragment.
Occurrence: Miocene; Japan (Todohara).

Sapindophyllum falcatum Ettingshausen.

1869 Sapindophyllum falcatum Ettingshausen, p. 27, pl. XLVI, f. 23.
1885 Sapindophyllum falcatum Ett.: Engelhardt, p. 352, pl. XXI, f. 22.
1911 Sapindophyllum falcatum Ett.: Kafka, p. 29.
Remarks: See *S. acuminatum.*
Occurrence: Oligocene; Bohemia (Kutschlin).

Sapindophyllum paradoxum Ettingshausen.

1885 Sapindophyllum paradoxum Ettingshausen, p. 21, pl. XXXI, f. 4, 4a.
1888 Sapindophyllum paradoxum Ett.: Schenk, p. 551.
Remarks: Schenk considers it doubtful whether this is a pinnate leaf. Ettingshausen compares it with *Cupania, Sapindus* and *Paullinia.*
Occurrence: Oligocene; Carniola (Sagor).

Sapindophyllum pelagicum (Unger) Velenovsky.

1850 Phyllites pelagicus Unger, p. 503.
1867a Phyllites pelagicus Unger: Unger, p. 653, pl. II, f. 13.
1884 Sapindophyllum pelagicum (Unger) Velenovsky, p. 7, pl. VII, f. 9, pl. VIII, f. 6—9.
1888 Sapindophyllum pelagicum (Unger): Schenk, p. 550.
1889 Sapindophyllum pelagicum (Unger): Velenovsky, pp. 51, 54.
1901 Sapindophyllum pelagicum (Unger): Fritsch & Bayer, p. 138.

Remarks: Bayer (1920, p. 61) considers that one of Velenovsky's specimens (1884, pl. VII, f. 9), from Vyserovic, belongs to the Bombacaceae and he renames it *Pachira pelagica*. He does not think that Velenovsky's other specimens, which came from Kaunitz, belong to the same species, and he agrees with Velenovsky that the Kaunitz specimens closely resemble Unger's *Phyllites pelagicus*.

Velenovsky also compares these forms with Heer's *Daphnophyllum crassinervium* from Moletein.

Occurrence: Cretaceous (Cenomanian); Bohemia.

Sapindophyllum spinuloso-dentatum Ettingshausen.

1869 **Sapindophyllum spinuloso-dentatum** Ettingshausen, p. 26, pl. XLVI, f. 27.
1891a **Sapindophyllum spinuloso-dentatum** Ett.: Engelhardt, p. 37.
1911 **Sapindophyllum spinuloso-dentatum** Ett.: Kafka, p. 29.

Remarks: See *S. acuminatum*.

Occurrence: Oligocene and Aquitanian; Bohemia (Kutschlin, Holaikluk).

Sapindophyllum subapiculatum Saporta.

1894 **Sapindophyllum subapiculatum** Saporta, p. 205, pl. XXXVI, f. 10, 11, pl. XXXVII, f. 4, 5, 10a, 17.

Occurrence: Cenomanian; Portugal (Nazareth).

Sapindophyllum sp.

1890 **Sapindophyllum** sp.: Marion, p. 1054.

Occurrence: Turonian; Martigues (Bouches-du-Rhone).

Sapindophyllum sp.

1906 **Sapindophyllum** sp.: Krasser, p. 42.

Occurrence: Senonian; Lower Austria (Grünbach).

Sapindopsis Fontaine, 1889, p. 296.

Remarks: Berry (1910) compares this genus with the living *Matayba* Aublet, of tropical America.

Sapindopsis belviderensis Berry.

1922b **Sapindopsis belviderensis** Berry, p. 216, pls. XLIX—LIV.

Occurrence: Upper Cretaceous (Cheyenne Sandstone); Kansas.

Sapindopsis brevifolia Fontaine.

1889 **Sapindopsis brevifolia** Fontaine, p. 300, pl. CLIII, f. 4, pl. CLV, f. 1, 7, pl. CLXIII, f. 3.
1905 **Sapindopsis brevifolia** Font.: Fontaine in Ward, pp. 481, 482, 528.
1910 **Sapindopsis brevifolia** Font.: Berry, p. 644.
1911 **Sapindopsis brevifolia** Font.: Berry, p. 473, pl. LXXXVII, f. 2—5.
1922b **Sapindopsis brevifolia** Font.: Berry, p. 216, pl. LV, f. 1, pl. LIX, f. 1.

Remarks: Probably represents a variant of *S. variabilis.* (Berry 1922b).

Occurrence: Cretaceous (Patapsco); Virginia, Maryland. Upper Cretaceous (Cheyenne Sandstone); Kansas.

[Sapindopsis cordata Fontaine.]

1889 **Sapindopsis cordata** Fontaine, p. 296, pl. CXLVII, f. 1.

Remarks: Included by Berry (1911, p. 505), in *Ficophyllum oblongifolium* (Font.), which is regarded by Knowlton (1919, p. 269) as a synonym of *Ficophyllum crassinerve* Font.

[Sapindopsis elliptica Fontaine.]

1889 **Sapindopsis elliptica** Fontaine, p. 297, pl. CXLVII, f. 3.

Remarks: Synonym of *Rogersia longifolia* Fontaine (teste Berry, 1910).

Sapindopsis magnifolia Fontaine.

1889 **Sapindopsis magnifolia** Fontaine, p. 297, pl. CLI, f. 2, 3; pl. CLII, f. 2, 3; pl. CLIII, f. 2; pl. CLIV, f. 1 ,5; pl. CLV, f. 6.

1889 **Sapindopsis obtusifolia** Fontaine, p. 301, pl. CLVI, f. 13; pl. CLIX, f. 3—6. (teste Berry, 1910).

1889 **Ficophyllum eucalyptoides** Fontaine, p. 294, pl. CLXIV, f. 1, 2. (teste Berry, 1910).

1889 **?Aralia dubia** Fontaine, p. 314, pl. CLVII, f. 1, 7, (non Schimper, 1874), (teste Berry, 1910).

1889 **Sapindopsis tenuinervis** Fontaine, p. 301, pl. CLIII, f. 1. (teste Berry, 1910).

1892 **Rhus uddeni** Lesquereux, p. 154, pl. LVII, f. 2 (teste Berry, 1922b).

1895 **Rhus uddeni** Lesq.: Knowlton, p. 212.

1898 **?Aralia fontainei** Knowlton, p. 37 (teste Berry, 1911).

1905 **Sapindopsis tenuinervis** Font.: Fontaine in Ward, pp. 489, 528.

1905 **Sapindopsis magnifolia** Font.: Fontaine in Ward, pp. 481, 482, 489, 528.

1905 **Ficophyllum eucalyptoides** Font.: Fontaine in Ward, p. 489.

1910 **Sapindopsis magnifolia** Font.: Berry, p. 642.

1911 **Sapindopsis magnifolia** Font.: Berry, p. 471, pl. LXXXVI: pl. LXXXVII, f. 1; pl. LXXXVIII.

1922b **Sapindopsis magnifolia** Font.:Berry, p. 214, pl. LV, f. 5; pl. LVI; pl. LVII, f. 2; pl. LIX, f. 3.

Remarks: In addition to the names included in the synonymy, Berry (1922b, p. 215) mentions the following species recorded by Lesquereux (1892) which "although I do not feel justified in transferring them to *Sapindopsis*, are more or less open to suspicion": *Aralia masoni* Lesq., *Laurus angusta* Heer, *Leguminosites hymenophyllus* Lesq., *Sapindus diversifolius* Lesq., and *Rhus powelliana* Lesq.

Occurrence: Cretaceous (Patapsco, Fuson, Cheyenne Sandstone); Virginia, Maryland, Wyoming, Kansas.

[Sapindopsis obtusifolia Fontaine.]

Synonym of **Sapindopsis magnifolia** Fontaine, q. v.

[**Sapindopsis oregonensis** Fontaine.]

1905 **Sapindopsis oregonensis** Fontaine, in Ward, p. 268, pl. LXIX, f. 15—17.

Remarks: Renamed *Nilssonia oregonensis* (Font.) by Berry (1910, p. 637).

[**Sapindopsis parvifolia** Fontaine.]

Synonym of **Sapindopsis variabilis**, q. v.

[**Sapindopsis tenuinervis** Fontaine.]

Synonym of **Sapindopsis magnifolia**, q. v.

Sapindopsis variabilis Fontaine.

1889 **Sapindopsis variabilis** Fontaine, p. 298, pl. CLI, f. 1; pl. CLII, f. 1, 4; pl. CLIII, f. 3; pl. CLIV, f. 2—4; pl. CLV, f. 2—5.
1889 **Sapindopsis parvifolia** Fontaine, p. 300, pl. CLIV, f. 6. (teste Berry, 1910).
1899 **Sapindopsis variabilis** Font.: Fontaine, p. 690, pl. CLXIX, f. 9.
1905 **Rogersia angustifolia** Fontaine, in Ward, pp. 491, 510 [not p. 521] (teste Berry, 1911).
1905 **Ficus myricoides** Hollick: Ward, p. 531, pl. CXII, f. 12. (teste Berry, 1911).
1905 **Eucalyptus roseriana** Ward, p. 530, pl. CXIII, f. 9, 10. (teste Berry, 1911).
1905 **Sapindopsis variabilis** Font.: Fontaine in Ward, pp. 481, 482, 489, 532, pl. CXIV, f. 2.
1911 **Sapindopsis variabilis** Font.: Berry, p. 469, pl. LXXXIII—LXXXV.
1916 **Sapindopsis variabilis** Font.: Cockerell, p. 110.
1922b **Sapindopsis variabilis** Font.: Berry, p. 213, pl. LV, f. 2—4.

Remarks: Berry has examined Cockerell's material from Colorado, and states that it is very inconclusive.

Occurrence: Cretaceous (Patapsco, Fuson, Cheyenne Sandstone); Maryland, Virginia, Wyoming, Kansas, ?Colorado.

Sapindoxylon Kräusel.

Sapindoxylon Janssonii Kräusel.

1922 **Sapindoxylon janssonii** Kräusel, p. 256, pl. I, f. 9; pl. II f. 3: pl. III, f. 6; pl. V, f. 5; pl. VII, f. 2.
1922 ?**Sapindoxylon janssonii** Kräusel, p. 258, pl. I, f. 8.

Remarks: Wood.

Occurrence: Lower Miocene; Sumatra (Barissan Mts., Benkulen). ?Upper Miocene; Sumatra (Palembang).

Sapindus Tournefort ex Linnaeus.

[**Sapindus acuminatoides** Engelhardt.]

1904a **Sapindus acuminatoides** Engelhardt, p. 323.

Remarks: Doubtless a misprint for *Celastrus acuminatoides* described on p. 353.

[Sapindus acuminatus Engelhardt (non Rafinesque, non Wallich).]

Synonym of Sapindus engelhardti, q. v.

Sapindus aemulus Heer.

1881a Sapindus aemulus Heer, p. 21, pl. II, f. 5a.
1925 Sapindus aemulus Heer: Kräusel, pp. 337, 338.
Remarks: According to Kräusel, this is at any rate sapindaceous.
Occurrence: Tertiary; Sumatra.

Sapindus affinis Newberry.

1868 Sapindus affinis Newberry, p. 51.
1870 Sapindus affinis Newb.: Newberry, p. 52.
1874 Sapindus affinis Newb.: Schimper, p. 168.
1878b Sapindus affinis Newb.: Lesquereux, pl. XXIV, f. 1; pl. XXV f. 2. [Not seen].
1883 Sapindus affinis Newb.: Dawson, p. 32.
1885 Sapindus affinis Newb.: Ward, p. 554, pl. L, f. 2. 3.
1887 Sapindus affinis Newb.: Ward, p. 67, pl. XXX, f. 1 2.
1887 Sapindus affinis Newb.: Dawson, p. 29.
1898 Sapindus affinis Newb.: Newberry, p. 116, pl. XXX, f. 1: pl. XL, f. 2.
1899 Sapindus affinis Newb.: Knowlton, p. 736, pl. CII f. 1—3.
1908 Sapindus affinis Newb.: Leonard, p. 49.
1909 Sapindus affinis Newb.: Knowlton, pp. 185, 189, 191. 201, 202, 211, 214.
1909 Sapindus affinis Newb.: Dowling, p. 31.
1910 Sapindus affinis Newb.: Dowling, p. 13.
1912 Sapindus affinis Newb.: Knowlton, p. 198.
1918 Sapindus affinis Newb.: Knowlton, p. 331, pl. XCIX, f. 3.
1924 Sapindus affinis Newb.: Berry, p. 72, pl. XII, f. 8.
Occurrence: Eocene (Raton, Fort Union, Lance, Lisbon); Montana, Colorado, N. Dakota, Wyoming, Mississippi, Saskatchewan.
?Upper Cretaceous (Laramie); N. W. Territories of Canada.

[Sapindus alatus Ward, non Salisbury.]

Synonym of Sapindus glendivensis, q. v.

[Sapindus americanus Lesquereux.]

Synonym of Sapindoides americanus, q. v.

Sapindus anceps Heer.

1874a Sapindus macrophyllus Heer, p. 16, pl. III, f. 3 [Non Saporta].
1881a Sapindus anceps Heer, p. 20.
1925 Sapindus anceps Heer: Kräusel, p. 337.
Occurrence: Tertiary; Sumatra.

[Sapindus anconitanus Paolucci.]

Synonym of Sapindus hazslinszkyi, q. v.

Sapindus angustifolius Lesquereux.

1874a **Sapindus angustifolius** Lesquereux, p. 415.
1878a **Sapindus angustifolius** Lesq.: Lesquereux, p. 265, pl. XLIX, f. 3—7. [non f. 2].
[1880 **Sapindus angustifolius** Lesq.: Ettingshausen, p. 235.]
1883 **Sapindus angustifolius** Lesq.: Lesquereux, p. 181, pl. XXXVII, f. 1, 2, 6, 8 [non 3, 5, 7]; pl. XXXIX f. 12.
1885 **Sapindus angustifolius** Lesq.: Ward, p. 554, pl. LI, f. 1—3.
1887 **Sapindus angustifolius** Lesq.: Ward, p. 68, pl. XXXI, f. 5—7.
1888 **Sapindus angustifolius** Lesq.: Lesquereux, p. 15, 35.
[1901 **Sapindus angustifolius** Lesq.: Squinabol, p. 53.]
1902 **Sapindus angustifolius** Lesq.: Knowlton, p. 79.
[1908 **Sapindus angustifolius** Lesq.: Lauby, p. 156.]
[1910 **Sapindus angustifolius** Lesq.: Lauby, pp. 122, 372.]
1919 **Sapindus angustifolius** Lesq.: Knowlton, p. 577.
[1921 **Sapindus angustifolius** Lesq.: Principi, p. 92.]
[1926 **Sapindus angustifolius** Lesq.: Principi, p. 75, pl. III, f. 5.]

Remarks: Knowlton says (1919, p. 577), "This is a homonym of *S. angustifolius* Blume. The leaves that have long been known as *Sapindus angustifolius* Lesquereux are obviously in confusion. Some have been removed under the names *S. coloradense* Cockerell and *S. leonis* Cockerell; the remainder are unassigned. Pending critical studies the species is permitted to stand".

In addition to Cockerell's two species (q. v.), some specimens formerly ascribed to *S. angustifolius* are now named *S. mississippiensis* (q. v.), and others *S. formosus* (q. v.).

In view of this confusion it is obvious that Squinabol's record of this species from the Eocene of Novale, Italy (1901) cannot stand. Squinabol does not figure his specimens, and, moreover, he compares it particularly with one of Lesquereux's figures which is now included in *S. coloradensis*. It would, however, be unwise to regard Squinabol's fragmentary specimen as a European record of *S. coloradensis*.

Ettingshausen's and Lauby's unfigured references to *S. angustifolius* are also valueless. Principi (1926) figures a pinnate leaf from Chiavon under this name, but again the ascription is not, in our opinion, admissible. This leaf resembles one figured by Principi (1916, pl. LXXXV, f. 11) as *S. dubius*, but the latter figure is not mentioned in the text, and moreover it appears to be much smaller and narrower than the typical *S. dubius*.

The question of the possible specific identity of European with North American Tertiary dicotyledons is one which will require careful study; most of the occasional identifications so far made among the Sapindaceae have been particularly unfortunate. (Cf. also the remarks on *S. dimidiatus*, *S. dubius*, *S. undulatus* etc.).

Occurrence: Eocene; Oregon and Montana. Miocene; Colorado. (See also remarks).

[**Sapindus apiculatus** Velenovsky.]

Synonym of **Sapindophyllum apiculatum**, q. v.

Sapindus argentinus Berry.

1925 **Sapindus argentinus** Berry, p. 208, pl. II, f. 4.
Occurrence: Miocene; Patagonia.

Sapindus asperifolius Ettingshausen.

1885 **Sapindus asperifolius** Ettingshausen, p. 20, pl. XXXI, f. 7, 7a.

Remarks: Very near *S. falcifolius*. The supposed papillate surface may not be original.

Occurrence: Oligocene; Carniola (Sagor).

Sapindus basilicus (Unger) Unger.

1850 **Juglans basilica** Unger, p. 470.
1866 **Sapindus basilicus** (Unger) Unger, p. 50, pl. XVI, f. 2—4.
1869 **Sapindus basilicus** (Unger): Ettingshausen, p. 25, pl. XLVII, f. 13.
1874 **Sapindus basilicus** (Unger): Schimper, p. 166.
1879 **Sapindus basilicus** (Unger): Engelhardt, p. 296.
1888 **Sapindus basilicus** (Unger): Schenk, p. 550.
1911 **Sapindus basilicus** (Unger): Kafka, pp. 29, 42.
1922 **Sapindus basilicus** (Unger): Engelhardt, p. 93, pl. XXXI, f. 3.

Remarks: Schenk considers that the flowers referred to this species by Unger (1866) are possibly sapindaceous, but the preservation is not good enough for this to be certain. There was no evidence of connexion with the leaf on which the species was founded. Ettingshausen and Engelhardt figure leaves only.

Occurrence: Upper Eocene; Germany (Hessen). Oligocene; Bohemia (Bilin basin). Miocene; Croatia (Radoboj).

Sapindus bentonensis Berry.

1916 **Sapindus bentonensis** Berry, p. 273, pl. LXVII, f. 4.

Occurrence: Eocene (Wilcox); Arkansas and Texas.

Sapindus bilinicus Ettingshausen.

1869 **Sapindus bilinicus** Ettingshausen, p. 24, pl. XLVII, f. 4—7
1874 **Sapindus bilinicus** Ett.: Schimper, p. 167.
1881a **Sapindus bilinicus** Ett.: Wentzel, p. 262.
1888 **Sapindus bilinicus** Ett.: Schenk, p. 550.
1891c **Sapindus bilinicus** Ett.: Engelhardt, p. 183, pl. XV, f. 1, 3—10; pl. XVI, f. 1.
1891a **Sapindus bilinicus** Ett.: Engelhardt, p. 37.
1898 **Sapindus bilinicus** Ett.: Engelhardt, p. 105.
1908 **Sapindus bilinicus** Ett.: Reininger, p. 510.
1911 **Sapindus bilinicus** Ett.: Kafka, p. 29.
1921 **Sapindus bilinicus** Ett.: Principi, p. 91.
1922 **Sapindus bilinicus** Ett.: Depape, p. 192, pl. XV, f. 10—12.
1926 **Sapindus bilinicus** Ett.: Principi, p. 72, pl. VIII, f. 13.

Remarks: Schenk (1888) mentions doubtful flowers of this species, but we have not found any earlier reference to them in the literature. Engelhardt (1891c) figures fruits under this name, as well as leaves.

Occurrence: Oligocene; Italy (Chiavon), Bohemia (Bilin basin, Berand). Pliocene; France (Théziers).

[**Sapindus bolcensis** Massalongo.]

Synonym of **Sapindus pristinus**, q. v.

Sapindus brandzai Marion & Laurent.

1898 **Sapindus brandzai** Marion & Laurent, p. 209, pl. II, f. 10.
Remarks: Resembles *S. falcifolius*.
Occurrence: Miocene; Rumania (Săcele).

Sapindus cassioides Ettingshausen.

1869 **Sapindus cassioides** Ettingshausen, p. 26, pl. XLVI, f. 1—7.
1874 **Sapindus cassioides** Ett.: Schimper, p. 167.
1880 **Sapindus cassioides** Ett.: Sieber, p. 87, pl. II, f. 12.
1885 **Sapindus cassioides** Ett.: Engelhardt, p. 351, pl. XIX, f. 6, 7, 10; pl. XXI, f. 13, 16.
1888 **Sapindus cassioides** Ett.: Ettingshausen, p. 27.
1898 **Sapindus cassioides** Ett.: Engelhardt, p. 105.
1898 **Sapindus cassioides** Ett.: Menzel, p. 16.
1903 **Sapindus cassioides** Ett.: Menzel, p. 17.
1911 **Sapindus cassioides** Ett.: Kafka, pp. 29, 42, 63.
1914 **Sapindus cassioides** Ett.: Principi, p. 184.
1916 **Sapindus cassioides** Ett.: Principi, p. 136, pl. LXIII, f. 4, 6—8, pl. LXXXV, f. 11.

Remarks: According to Schimper and Principi, the generic attribution is doubtful. The leaves resemble those of *Carya heerii* (Ett.).

Occurrence: Oligocene; Bohemia (Kundratitz, Kutschlin etc.), Italy (S. Giustina). Miocene; Bohemia (Kostenblatt), Styria (Leoben).

Sapindus caudatus Lesquereux.

1873 **Sapindus caudatus** Lesquereux, p. 380, 397.
1871 **Sapindus caudatus** Lesq.: Schimper, p. 610.
1878a **Sapindus caudatus** Lesq.: Lesquereux, p. 264, pl. XLVIII, f. 6.
1888 **Sapindus caudatus** Lesq.: Lesquereux, p. 24.
1909 **Sapindus caudatus** Lesq.: Stanton, p. 272.
1918 **Sapindus caudatus** Lesq.: Knowlton, p. 330, pl. C, f. 2.

Remarks: In Knowlton 1917 (p. 330), *Nyssa lanceolata* Lesquereux (1878a, pl. XXXV, f. 5) is included as a synonym of *S. caudatus*, but in Knowlton 1919 (p. 413) it is again listed as *Nyssa lanceolata*.

Occurrence: Eocene (Denver, Wilcox, Raton); Colorado, Louisiana and New Mexico.

Sapindus coloradensis Cockerell.

1878a **Sapindus angustifolius** Lesquereux (pars) pl. XLIX, f. 2
1883 **Sapindus angustifolius** Lesquereux (pars) pl. XXXVII, f. 3—5.
1908 **Sapindus coloradensis** Cockerell, p. 101, pl. IV, f. 31.
Remarks: See *S. angustifolius*.
Occurrence: Miocene; Colorado (Florissant).

[**Sapindus coriaceus** Lesquereux.]

1874 **Sapindus coriaceus** Lesquereux, p. 415.
1878a **Sapindus coriaceus** Lesq.: Lesquereux, p. 265, pl. XLIX, f. 12—14.
1883 **Sapotacites copeanus** Ettingshausen, p. 136.
1888a **Sapotacites copeanus** Ett.: Ettingshausen, p. 57.

1888 **Sapindus coriaceus** Lesq.: Lesquereux, p. 24.
1919 **Sapotacites coriaceus** (Lesq.) Knowlton, p. 582.
Remarks: Ettingshausen founded his species *Sapotacites copeanus* on Lesquereux's figure 13, and stated that figure 14 might remain as *Sapindus coriaceus*. He does not mention figure 12. Knowlton in his catalogue included both of these in *Sapotacites* without further comment. Lesquereux's figure 14 is of an exceedingly poor fragment, and figure 12, if a *Sapindus*, might well belong to some other species. It is probably best to follow Knowlton and transfer *Sapindus coriaceus* to *Sapotacites*.
Occurrence: Eocene; Louisiana. Miocene; Nevada.

Sapindus coushatta Berry.

1899 **Juglans rugosa** Lesquereux: Hollick, p. 280, pl. XXXV, f. 1. [non f. 2].
1916 **Sapindus coushatta** Berry, p. 273, pl. LXV, f. 5.
Occurrence: Eocene (Wilcox); Louisiana.

[**Sapindus crassinervis** Ettingshausen.]

1880 **Sapindus crassinervis** Ettingshausen, p. 235.
Remarks: Nomen nudum.

Sapindus cupanioides Ettingshausen.

1869 **Sapindus cupanioides** Ettingshausen, p. 25, pl. XLVII, f. 3.
1874 **Sapindus cupanioides** Ett.: Schimper, p. 167.
1885 **Sapindus cupanioides** Ett.: Engelhardt, p. 351.
1896 **Sapindus cupanioides** Ett.: Engelhardt, p. 170.
1901 **Sapindus cupanioides** Ett.: Squinabol, p. 55.
1911 "**Dodonaea cupanoides** Ett.": Kafka, p. 63.
1914 **Sapindus cupanioides** Ett.: Principi, p. 184.
1916 **Sapindus cupanioides** Ett.: Principi, p. 136, pl. LXIII, f. 12.
1921 **Sapindus cupanioides** Ett.: Principi, p. 91.
1922 **Sapindus cupanioides** Ett.: Engelhardt, p. 93, pl. XXXII, f. 10.
1926 **Sapindus cupanioides** Ett.: Principi, p. 72, pl. III, f. 6.
Occurrence: Eocene; Italy (Novale), Hessen (Messel). Oligocene; Italy (S. Giustina, Chiavon). Oligocene and Miocene; Bohemia (Bilin basin).

Sapindus dalmaticus Visiani.

1858 **Sapindus dalmaticus** Visiani, p. 438, pl. XV, f. 1, 2.
1861 **Sapindus dalmaticus** Vis.: Ettingshausen, p. 245.
Occurrence: Oligocene; Dalmatia.

Sapindus defunctus Heer.

1878 **Sapindus defunctus** Heer, p. 50, pl. XIV, f. 11.
Remarks: Should probably be united with *S. falcifolius*. Represented by a single incomplete leaf.
Occurrence: Miocene (Heer); Sakhalin.

Sapindus densifolius Heer.

1859 **Sapindus densifolius** Heer, p. 62, pl. CXX, f. 1.
1861 **Sapindus densifolius** Heer: Ettingshausen, p. 245.
1864 **Sapindus densifolius** Heer: Gaudin & Strozzi, p. 21.

1869a **Sapindus densifolius** Heer: Heer, p. 94, pl. XXIX, f. 13, 13b.
1874 **Sapindus densifolius** Heer: Schimper, p. 164.
1876 **Sapindus densifolius** Heer: Peruzzi, p. 75.
1888 **Sapindus densifolius** Heer: Schenk, p. 551.
1893 **Sapindus densifolius** Heer: Meschinelli & Squinabol, p. 360.
1895 **Sapindus densifolius** Heer: Keller, p. 325, pl. VI, f. 4.
1898 **Sapindus densifolius** Heer: Almera, p. 686.
1911 **Sapindus densifolius** Heer: Engelhardt, p. 379, pl. XLI, f. 63.

Remarks: Very close to *S. falcifolius*, and should perhaps be united with it.

Occurrence: Oligocene: Prussia (Rixhöft), Hessen (Flörsheim). Miocene: Baden and Switzerland. Pliocene: Italy (Tuscany), Spain (Barcelona).

Sapindus dentoni Lesquereux.

1876 **Sapindus dentoni** Lesquereux, p. 315.
1876a **Sapindus dentoni** Lesq.: Lesquereux, p. 388.
1878a **Sapindus dentoni** Lesq.: Lesquereux, p. 265, pl. LXIV, f. 2—4.
1923 **Sapindus dentoni** Lesq.: Knowlton, p. 166.
1923 **Sapindus dentoni** Lesq.: Trowbridge, p. 97.
1924 **Sapindus dentoni** Lesq.: Berry, pp. 73, 177, pl. XII, f. 9.

Occurrence: Eocene (Green River, Claiborne, Jackson); Utah, Mississippi, Texas, Wyoming.

Sapindus dimidiatus (Visiani & Massalongo) comb. nov.

1854 **Cassia dimidiata** Visiani & Massalongo, p. 124.
1858 **Cassia dimidiata** Visiani & Massalongo, p. 240, pl. XIII, f. 1.
1858 **Cassia dimidiata** Vis. & Mass.: Massalongo & Scarabelli, p. 433, pl. XXXV, f. 28; pl. XXXIX, f. 11.
1893 **Cassia dimidiata** Vis. & Mass.: Meschinelli & Squinabol, p. 465.
1901 **Sapindus obtusifolius** Lesq.: Squinabol, p. 54.
1921 **Sapindus obtusifolius** Lesq.: Principi, p. 92.
1926 **Sapindus obtusifolius** Lesq.: Principi, p. 75, pl. VIII, f. 14.

Remarks: In the opinion of Squinabol (1901) the leaf described by Visiani and Massalongo as *Cassia dimidiata* is a *Sapindus*, and he refers it to *Sapindus obtusifolius* Lesq. It seems unwise, without careful comparison of the actual specimens, to combine the Italian and American leaves, and the former should therefore be called *Sapindus dimidiatus*. Even if the two should prove to be identical, this name would still stand, as it is earlier than Lesquereux's.

Occurrence: Eocene; Italy (Novale). Oligocene; Italy (Chiavon). Miocene; Italy (Sinigaglia).

Sapindus diversifolius Lesquereux.

1892 **Sapindus diversifolius** Lesquereux, p. 158, pl. LXIV, f. 18.

Remarks: Perhaps a *Sapindopsis*; see remarks on *Sapindopsis magnifolia*.

Occurrence: Cretaceous (Dakota); Ellsworth Co., Kansas.

Sapindus drepanophyllus Saporta.

1873 **Sapindus drepanophyllus** Saporta, p. 93, pl. XIII, f. 4, 5.
1874 **Sapindus drepanophyllus** Saporta: Schimper, p. 701.

Remarks: "Très-voisin du *S. falcifolius* et semblable au *S. acuminatus* Wall. des Indes. et surtout au *S. monatensis* Shuttl. de la Florida." (Schimper).

Occurrence: Oligocene; S. France (Aix).

Sapindus dubius Unger.

1854 **Sapindus dubius** Unger, p. 180, pl. V, f. 11.
1857 **Juglans acuminata** [non A. Braun] Massalongo, p. 24.
1858 **Sapindus dubius** Unger: Massalongo & Scarabelli, p. 358, pl. XXIX, f. 24.
1859 **Sapindus dubius** Unger: Heer, p. 63, CXX, f. 9—11.
1864 **Sapindus dubius** Unger: Gaudin & Strozzi, p. 21.
1867 **Sapindus dubius** Unger: Stur, p. 179.
1870 **Sapindus dubius** Unger: Ettingshausen, p. 82.
1874 **Sapindus dubius** Unger: Schimper, p. 164.
1877 **Sapindus dubius** Unger: Ettingshausen, p. 190.
1880 **Sapindus dubius** Unger: Engelhardt, p. 144, pl. VIII, f. 16.
1887 **Sapindus dubius** Unger: Boulay, p. 270.
1887 **Sapindus dubius** Unger: Cavara, p. 149, pl. VI, f. 5.
1888 **Sapindus dubius** Unger: Ettingshausen, p. 26.
1892 **Sapindus dubius** Unger: Keller, p. 108, pl. IV, f. 4.
1893 **Sapindus dubius** Unger: Meschinelli & Squinabol, p. 360.
1897 **Sapindus dubius** Unger: Almera, p. 160.
1901 **Sapindus dubius** Unger: Squinabol, p. 54.
1910 **Sapindus dubius** Unger: Lauby, p. 372.
1911 **Sapindus dubius** Unger: Kafka, p. 62.
1914 **Sapindus dubius** Unger: Engelhardt, p. 303, pl. XII, f. 5.
1914 **Sapindus dubius** Unger: Principi, p. 184.
1916 **Sapindus dubius** Unger: Principi, p. 135, pl. LXIII, f. 10.
1921 **Sapindus dubius** Unger: Principi, p. 92.
1922 **Sapindus dubius** Unger: Engelhardt, p. 93, pl. XXXI, f. 7.
1926 **Sapindus dubius** Unger: Principi, p. 74, pl. VIII, f. 12; pl. IX, f. 5.

Remarks: Ettingshausen (1861, p. 245; 1869, p. 25) and Engelhardt (1876, p. 390) included this species in the synonymy of *S. hazslinszkyi*, but later both authors seem to have abandoned this reference, without making any comment on the matter. Boulay (1887)thinks the two species are the same, but Principi (1926) gives reasons for keeping them separate.

A specimen from Kentucky referred to *S. dubius* by Lesquereux (1888, p. 12) is, according to Berry (1916, p. 186), a leaf of *Engelhardtia ettingshauseni;* other specimens belong to *Ficus wilcoxensis* Berry (1916, p. 202).

See also the remarks on *S. angustifolius.*

Occurrence: Eocene: Italy (Novale); Hessen (Messel). Oligocene: Italy (S. Giustina, Chiavon), Carniola (Sagor). Miocene: Baden (Oeningen), Switzerland, Italy, Styria, Transylvania, Bohemia. Pliocene: Italy (Mongardino), Spain (Espluga), France (Ardèche).

Sapindus sp., cf. **dubius** Unger.

1885 **Sapindus** sp., cf. **dubius** Unger: Medlicott, p. 98.

Occurrence: Middle Tertiary; India (Kasaoli Range).

Sapindus engelhardti nom. nov.

1890 **Sapindus acuminatus** Engelhardt, p. 4.
1891 **Sapindus acuminatus** Engelhardt, p. 670, pl. IX, f. 10.

1922 **Sapindus acuminatus** Engelh.: Berry, pp. 82, 84, 127.

Remarks: Berry states (1922, p. 96) that this leaf appears to be correctly identified as a *Sapindus*. In order to avoid confusion with the living *Sapindus acuminatus* Rafinesque of America (= *S. marginatus*), it seems advisable to create a new name.

Occurrence: Lower Miocene; Chile.

[**Sapindus eocenicus** Ettingshausen.]

1879 **Sapindus eocenicus** Ettingshausen, p. 395.
1880 **Sapindus eocenicus** Ettingshausen, p. 235.

Remarks: Nomen nudum.

Sapindus eoligniticus Berry.

1916 **Sapindus eoligniticus** Berry, p. 276, pl. LXVII, f. 1—3; pl. CIX, f. 3.

Occurrence: Eocene (Lagrange); Tennessee, Kentucky.

Sapindus ephialtae (Ettingshausen) Visiani.

1854 **Artocarpidium ephialtae** Ettingshausen, p. 30, pl. VII, f. 10.
1858 **Sapindus ephialtae** (Ett.) Visiani, p. 439. pl. XVI, f. 3.
1861 **Sapindus ephialtae** (Ett.): Ettingshausen, p. 245.
1872 **Artocarpidium ephialtae** Ett.: Schimper, p. 755.
1914 **Sapindus ephialtae** (Ett.): Principi, p. 184.
1916 **Sapindus ephialtae** (Ett.): Principi, p. 135, pl. LXIII, f. 1, 2.
1921 **Sapindus ephialtae** (Ett.): Principi, p. 92.
1926 **Sapindus ephialtae** (Ett.): Principi, p. 73.

Occurrence: Oligocene; Dalmatia (Monte Promina), Italy (S. Giustina, Chiavon).

[**Sapindus erdobenyensis** Kovats.]

Synonym of **Sapindus falcifolius**, q. v.

Sapindus falcifolius (A. Br.)

1836 **Juglans falcifolia** Al. Braun in Buckland, p. 513.
1845 **Juglans falcifolia** A. Br.: Al. Braun, p. 170.
1848 **Juglans falcifolia** A. Br.: Unger, p. 509.
1850 **Juglans falcifolia** A. Br.: Unger, p. 469.
1850 **Juglans falcifolia** A. Br.: Al. Braun in Bruckmann, p. 234.
1850 **Zanthoxylon salignum** Al. Braun in Bruckmann, p. 233.
1851 **Sapindus falcifolius** (A. Br.) Al. Braun in Stizenberger, p. 87.
1853 **Sapindus falcifolius** (A. Br.): Heer, p. 146.
1853 **Sapindus longifolius** Heer, p. 146 (nomen).
1854 **Sapindus falcifolius** (A. Br.): Ettingshausen, p. 809, pl. IV, f. 1.
1856a **Sapindus falcifolius** (A. Br.): Heer, p. 95.
1856 **Sapindus erdöbényensis** Kovats, p. 32, pl. VII, f. 4, 5.
1856a **Sapindus falcifolius** (A. Br.): Kovats, p. 41.
1858 **Sapindus falcifolius** (A. Br.): Massalongo & Scarabelli, p. 359, pl. XXXIII, f. 8; pl. XXXIV, f. 2.
1858 **Sapindus falcifolius?** (A. Br.): Gaudin & Strozzi, p. 37, pl. XII, f. 9, 10.
1859 **Sapindus falcifolius** (A. Br.): Heer, p. 61, pl. CXIX; pl. CXX, f. 2—8; pl. CXXI, f. 1, 2; p. 299 note.
1859 **Sapindus falcifolius** (A. Br.): Massalongo, p. 93.

1859 **Sapindus falcifolius** (A. Br.): Sismonda, p. 531.
1861 **Sapindus falcifolius** (A. Br.): Ettingshausen, p. 244.
1862 **Sapindus falcifolius** (A. Br.): Jokely, p. 379.
1862 cf **Sapindus falcifolius** (A. Br.): De la Harpe & Salter, p. 117.
1864 **Sapindus falcifolius** (A. Br.): Gaudin & Strozzi, p. 21, pl. II, f. 16.
1865 **Sapindus falcifolius** (A. Br.): Sismonda, p. 448, pl. XXIX, f. 1, 2.
1867 **Sapindus falcifolius** (A. Br.): Molon, p. 83.
1867 **Sapindus falcifolius** (A. Br.): Stur, p. 179.
1867 **Sapindus erdöbényensis** Kovats: Stur, p. 179.
1869 **Sapindus falcifolius** (A. Br.): Ettingshausen, p. 24.
1869a **Sapindus falcifolius** (A. Br.): Heer, p. 94, pl. XVIII, f. 2c; pl. XXVIII, f. 12b.
1870 **Sapindus falcifolius** (A. Br.): Engelhardt, p. 26, pl. VII, f. 4.
1870 **Sapindus falciformis** [sic] (A. Br.): Ettingshausen, p. 82.
1870 **Sapindus falcifolius** (A. Br.): Hofmann, p. 527.
1870 **Sapindus erdöbényensis** Kovats: Unger, p. 12, pl. IV, f. 13, 14.
1870 **Sapindus falcifolius**? (A. Br.): Wurtenberger, p. 575.
1870a **Hymenaea fenzlii** Ettingshausen, p. 896, pl. II, f. 5, 6 (teste Schenk).
1874 **Sapindus falcifolius** (A. Br.): Geyler, p. 104.
1874 **Sapindus falcifolius** (A. Br.): Schimper, p. 163, pl. C, f. 35—37.
1874 **Sapindus falcifolius** (A. Br.): Capellini, p. 580, pl. VI, f. 13—15.
1876 **Sapindus falcifolius** (A. Br.): Engelhardt, p. 389, pl. VII (XXII), f. 11, 12.
1877 **Sapindus falcifolius** (A. Br.): Ettingshausen, p. 189.
1878 **Sapindus falcifolius** (A. Br.): Zwanziger, p. 72, pl. XXVI, f. 4.
1879 **Sapindus falcifolius** (A. Br.): Sandberger, p. 180.
1879 **Sapindus falcifolius** (A. Br.): Sieber, p. 242.
1880 **Sapindus falcifolius** (A. Br.): Sieber, p. 86, pl. III, f. 10, 11.
1880 **Sapindus falcifolius** (A. Br.): Laube, p. 278.
1880 **Sapindus falcifolius** (A. Br.): Engelhardt, p. 144, pl. VIII, f. 13—15.
1881a **Sapindus falcifolius** (A. Br.): Engelhardt, p. 155.
1881 **Sapindus falcifolius** (A. Br.): Heer, p. 35, pl. XXVIII, f. 2.
1881 **Sapindus falcifolius** (A. Br.): Wentzel, p. 91.
1881a **Sapindus falcifolius** (A. Br.): Wentzel, p. 261.
1883 **Sapindus falcifolius** (A. Br.): Pilar, p. 99, pl. XII, f. 1, 3.
1883 **Sapindus falcifolius** (A. Br.): Probst, p. 223.
1885 **Sapindus falcifolius** (A. Br.): Sacco, p. 277.
1885 **Sapindus falcifolius** (A. Br.): Engelhardt, p. 351, pl. XVIII, f. 9, 13, 14.
1886 **Sapindus falcifolius** (A. Br.): Sacco, p. 86.
1887 **Sapindus falcifolius** (A. Br.): Boulay, p. 270.
1887 **Sapindus falcifolius** (A. Br.): Cavara, p. 149, pl. V, f. 21.
1887 **Sapindus falcifolius** (A. Br.): Stefani, p. 225.
1888 **Sapindus falcifolius** (A. Br.): Schenk, p. 550, f. 313.
1888 **Sapindus falcifolius** (A. Br.): Ettingshausen, p. 342, pl. VIII, f. 11.
1889 **Sapindus falcifolius** (A. Br.): Meschinelli, p. 287.
1891c **Sapindus falcifolius** (A. Br.): Engelhardt, p. 184, pl. XV, f. 11.
1892 **Sapindus falcifolius** (A. Br.): Keller, p. 107, pl. IX, f. 2.
1893 **Sapindus falcifolius** (A. Br.): Meschinelli & Squinabol, p. 360.
1895 **Sapindus falcifolius** (A. Br.): Peola, p. 65 [not seen].

1896 **Sapindus falcifolius** (A. Br.): Paolucci, p. 118, pl. XX, f. 143—144.
1896 **Sapindus falcifolius** (A. Br.): Engelhardt, p. 171.
1896 **Sapindus falcifolius** (A. Br.): Keller, p. 317, pl. X, f. 6.
1898 **Sapindus falcifolius** (A. Br.): Peola, p. 82.
1898 **Sapindus falcifolius** (A. Br.): Engelhardt, p. 105.
1899 **Sapindus falcifolius** (A. Br.): Laurent, p. 126, pl. XIII, f. 7, 8.
1899a **Sapindus falcifolius** (A. Br.): Peola, p. 105.
1900 **Sapindus falcifolius** (A. Br.): Peola, p. 246.
1902 **Sapindus falcifolius** (A. Br.): Dreger, p. 97.
1902 **Sapindus falcifolius** (A. Br.): Kerner, p. 344.
1902 **Sapindus falcifolius** (A. Br.): Engelhardt, p. 286, pl. IV, f. 24.
1903 **Sapindus falcifolius** (A. Br.): Menzel, p. 17.
1904 **Sapindus falcifolius** (A. Br.): Engelhardt, p. 352, f. 3.
1904a **Sapindus falcifolius** (A. Br.): Engelhardt, p. 403, pl. XCVII, f. 23.
1905 **Sapindus falcifolius** (A. Br.): Laurent, p. 203.
1907 **Sapindus falcifolius** (A. Br.): Kerner, p. 139.
1908 **Sapindus falcifolius** (A. Br.): Andrews, p. 220.
1909 **Sapindus falcifolius** (A. Br.): Engelhardt, p. 496, pl. XXVIII, f. 9, 11.
1910 **Sapindus falcifolius** (A. Br.): Lauby, p. 372.
1910a **Sapindus falcifolius** (A. Br.): Engelhardt, p. 152, pl. II, f. 2.
1911 **Sapindus falcifolius** (A. Br.): Engelhardt, p. 378, pl. XLI, f. 56.
1911 **Sapindus falcifolius** (A. Br.): Engelhardt, p. 418, pl. XLIV, f. 15.
1911 **Sapindus falcifolius** (A. Br.): Kafka, pp. 29, 42, 53, 62.
1912 **Sapindus falcifolius** (A. Br.): Engelhardt, p. 617, pl. XXXIII, f. 11.
1913 **Sapindus falcifolius** (A. Br.): Engelhardt, p. 389, pl. II, f. 7, 11.
1914 **Sapindus falcifolius** (A. Br.): Engelhardt, pl. XV, f. 2, 3, 5.
1914 **Sapindus falcifolius** (A. Br.): Principi, p. 184.
1916 **Sapindus falcifolius** (A. Br.): Principi, p. 133, pl. LXIII, f. 3, 5, 14—16.
1921 **Sapindus falcifolius** (A. Br.): Principi, p. 91.
1922 **Sapindus falcifolius** (A. Br.): Engelhardt, p. 92, pl. XXX, f. 1.
1926 **Sapindus falcifolius** (A. Br.): Principi, p. 122.

Remarks: The commonest and most widely-spread Tertiary representative of the *Sapindaceae* in Europe. In addition to some almost complete leaves from Oeningen, Heer figures fruits, which Schenk (1888) considers doubtful, since similar fruits are found in other genera and families. Sieber also (1880) figures a somewhat obscure fruit.

The inclusion of *S. erdöbényensis* is universally accepted. There are several other species which are certainly very near *S. falcifolius*, and some of them should probably be united with it. Among these are: *S. asperifolius*, *S. brandzai*, *S. defunctus*, *S. densifolius*. *S. drepanophyllus*, *S. primaevus*, *S. pristinus* and *S. radobojanus*.

According to Schenk (1889, p. 694) Ettingshausen's *Hymenaea fenzlii* from Radoboj is "kaum etwas anders als der bekannte *Sapindus falcifolius*".

Engelhardt (1876 and 1902) includes *S. ungeri* in the synonymy of *S. falcifolius*. Pilar (1883) copies this, (for he copies Engelhardt's mistake in the date of Unger's paper), but evidently does not really accept it, since he treats *S. ungeri* separately on a later

page. Heer (1869a) thinks that both *S. ungeri* and *S. heliconius* belong to *S. falcifolius*.

A specimen from Kentucky referred to *S. falcifolius* by Lesquereux (1888, p. 12, pl. IV, f. 4) is included in *Ficus wilcoxensis* by Berry (1916, p. 202).

S. falcifolius has been compared with the living *S. marginatus* of the southern United States (Braun, Schenk), with *S. surinamensis* and *S. frutescens* of tropical America (Heer and other authors), and with *S. mukurosi* of Japan (Laurent).

Heer refers to this species the specimen figured by Knorr, Sammlung von Merkwürdigkeiten, I, 1755, pl. IXa, fig. 4.

Occurrence: Eocene: Hessen (Darmstadt), ?England (Corfe Castle). Oligocene: Italy (Liguria, Vicentino), France (Célas), Germany (Flörsheim. Rixhöft), Bohemia, Transylvania, Carniola (Sagor). Miocene: Switzerland, Italy, Dalmatia, Bosnia, Herzegovina, Croatia, Styria, Hungary, Bohemia, Germany, France, Portugal. Pliocene: Italy, France (Cantal, La Mougudo).

Sapindus firmifolius Engelhardt.

1922 **Sapindus firmifolius** Engelhardt, p. 94, pl. XXXI, f. 9.
Occurrence: Eocene; Hessen (Messel near Darmstadt).

Sapindus formosus Berry.

1888 **Sapindus angustifolius** Lesquereux, p. 24.
1916 **Sapindus formosus** Berry, p. 276, pl. LXVI, f. 3—7.
1917 **Sapindus formosus** Berry: Berry, p. 62.
Occurrence: Eocene; Mississippi, Louisiana, Tennessee, Kentucky.

Sapindus fragmentarius Saporta.

1863 **Sapindus fragmentaria** Saporta, p. 87.
1874 **Sapindus fragmentarius** Sap.: Schimper, p. 164.
Occurrence: Oligocene; France (St. Zacharie).

[**Sapindus fraxinifolius** Ettingshausen (non DC., non Blume).]

Synonym of. **S. pythii**, q. v.

Sapindus georgianus Berry.

1914 **Sapindus georgiana** Berry, p. 143, pl. XXVII, f. 11, 12.
1924 **Sapindus georgianus** Berry, pp. 71, 177.
Remarks: Nearly related to *S. saponaria* L.
Occurrence: Eocene (Jackson, Lisbon, Yegua); Georgia, Mississippi, Texas.

Sapindus glendivensis Knowlton.

1885 **Sapindus alatus** Ward, p. 554, pl. L, f. 9, 10 (non Salisbury).
1887 **Sapindus alatus** Ward: Ward, p. 68, pl. XXXI, f. 3, 4.
1899 **Sapindus alatus** Ward: Knowlton, p. 737.
1919 **Sapindus glendivensis** Knowlton, p. 579.
Occurrence: Eocene (Fort Union); Montana, Yellowstone National Park.

[Sapindus goppertianus Massalongo.]

1859 Sapindus goppertianus Massalongo, p. 92.
Remarks: Nomen nudum.

Sapindus gossei Ettingshausen.

1886 Sapindus gossei Ettingshausen, p. 126, pl. XIV, f. 15—17.
1888a Sapindus gossei Ett.: Ettingshausen, p. 161, pl. XIV, f. 15—17.
Occurrence: Tertiary; Australia.

Sapindus graecus Unger.

1862 Sapindus ungeri Ettingshausen: Unger, p. 176, f. 42.
1867 Sapindus graecus Unger, p. 73, pl. XII, f. 1—23.
1867 Rhus helladotherii Unger, p. 78, pl. XIV, f. 14 (not f. 15) [teste Fritel].
1867 Persoonia euboea Unger, p. 57, pl. VIII, f. 13 [teste Fritel].
1868 Sapindus ungeri Ett.: Saporta, p. 321.
1874 Sapindus graecus Unger: Schimper, p. 167.
1921 Sapindus graecus Unger: Fritel, p. 472.
1922 Sapindus graecus Unger: Fritel, p. 127.
Remarks: This species was at first placed in *S. ungeri* by Unger. Schimper remarks that it is near *S. ungeri*, if indeed it is a *Sapindus*. The species has recently been revised by Fritel.
Occurrence: Aquitanian; Greece, Kumi (Euboea) and Oropo (Attica).

Sapindus grandifolioloides Knowlton.

1899 Sapindus grandifolioloides Knowlton, p. 738, pl. C, f. 2.
Occurrence: Miocene; Yellowstone National Park.

Sapindus grandifoliolus Ward.

1885 Sapindus grandifoliolus Ward, p. 554, pl. L, f. 4—8.
1887 Sapindus grandifoliolus Ward: Ward, p. 67, pl. XXX, f. 3—5; pl. XXXI, f. 1, 2.
1899 Sapindus grandifoliolus Ward: Knowlton, p. 737, pl. XCIX, f. 1, 2; pl. CII, f. 4.
1909 Sapindus grandifoliolus Ward: Knowlton, pp. 189, 190, 195, 198, 203, 210, 211, 213, 214.
1911 Sapindus grandifoliolus Ward: Knowlton in Leonard, pp. 541—542.
1911 Sapindus grandifoliolus Ward: Knowlton, p. 369, 370.
1912 Sapindus grandifoliolus Ward: Knowlton, pp. 426, 481.
Occurrence: Eocene (Fort Union, Lance); Montana, Wyoming, N. Dakota.

Sapindus grandifolius Engelhardt.

1881 Sapindus grandifolius Engelhardt, p. 310, pl. XXI, f. 1.
1887 Sapindus grandifolius Engelhardt: Cavara, p. 150 pl. VI, f. 9, 16.
1893 Sapindus grandifolius Engel.: Meschinelli & Squinabol, p. 361.
Occurrence: Miocene; Bohemia (Grasseth). Pliocene; Italy (Mongardino).

Sapindus hazslinszkyi Ettingshausen.

1854 **Sapindus hazslinszkyi** Ettingshausen, p. 809, pl. IV, f. 2.
1856a **Sapindus hazslinszkyi** Ett.: Kovats, p. 41.
1858 **Sapindus hazslinszkyi** Ett.: Massalongo & Scarabelli, p. 360, pl. XXXIII, f. 1.
1859 **Sapindus hazslinszkyi** Ett.: Sismonda, p. 531.
1861 **Sapindus haszlinskyi** Ett.: Ettingshausen, p. 245.
1865 **Sapindus haslinskyi** Ett.: Sismonda, p. 448, pl. XXIX, f. 3.
1866 **Sapindus hazslinszkyi** Ett.: Stur, p. 139.
1867 **Sapindus haszlinskyi** Ett.: Stur, p. 179.
1869 **Sapindus haszlinskyi** Ett.: Ettingshausen, p. 25, pl. XLIII, f. 13; pl. XLVII, f. 1, 2.
1874 **Sapindus hazslinszkyi** Ett.: Schimper, p. 168.
1876 **Sapindus haszlinskyi** Ett.: Engelhardt, p. 390, pl. VII (XXII), f. 13.
1879 **Sapindus haszlinskyi** Ett.: Engelhardt, p. 296.
1885 **Sapindus hazslinszkii** Ett.: Sacco, p. 277.
1886 **Sapindus haslinskyi** Ett.: Sacco, p. 86.
1891a **Sapindus haszlinskii** Ett.: Engelhardt, p. 34.
1893 **Sapindus hazslinszkii** Ett.: Meschinelli & Squinabol, p. 362.
1894 **Sapindus haszlinskyi** Ett.: Engelhardt, p. 194, pl. IV, f. 4, 5; pl. V, f. 3.
1895 **Sapindus hazslinszkii** Ett.: Peola, p. 65 [not seen].
1896 **Sapindus hazslinszkyi** Ett.: Peola, p. 266.
1896 **Sapindus(?) hazslinszkii** Ett.: Paolucci, p. 120, pl. XX, f. 146.
1896 **Sapindus(?) anconitanus** Paolucci, p. 120, pl. XX, f. 147. [teste Principi].
1898 **Sapindus hazslinszkyi** Ett.: Ettingshausen, p. 82.
1899 **Sapindus hazslinszkyi** Ett.: Peola, p. 49.
1900 **Sapindus hazslinszkyi** Ett.: Peola, p. 246.
1903 **Sapindus haslinskyi** Ett.: Menzel, p. 17.
1911 **Sapindus haszlinszkyi** Ett.: Kafka, pp. 42, 53, 62.
1914 **Sapindus hazslinszkii** Ett.: Kryshtofovich, p. 594, pl. f. 9.
1924 **Sapindus hazslinszkii** Ett.: Principi, p. 300, pl. I, f. 9.
1926a **Sapindus hazslinskii** Ett.: Principi, p. 237, pl. II, f. 25.

Remarks: See *S. dubius*. The correct spelling appears to be *S. hazslinszkyi*.

Occurrence: Oligocene: Italy, Bohemia. Miocene: Hungary, Bohemia, Slavonia, Italy, S. Russia.

Sapindus heliconius Unger.

1850 **Sapindus heliconius** Unger, p. 457.
1852 **Sapindus heliconius** Unger: Massalongo, p. 10.
1860 **Sapindus heliconius** Unger: Unger, p. 34, pl. XV, f. 1—5.
1861 **Sapindus heliconius** Unger: Ettingshausen, p. 245.
1861 **Sapindus heliconius** Unger: Andrae, p. 434, pl. I, f. 5.
1866 **Sapindus heliconius** Unger: Unger, p. 50, pl. XVI, f. 1.
1866 **Apocynophyllum sessile** Unger, p. 16, pl. IV, f. 20 [teste Ettingshausen, 1870a].
1866 **?Neritinium longifolium** Unger, p. 17, pl. V, f. 4 [teste Ettingshausen, 1870a].
1870 **Sapindus heliconius** Unger: Vukotinović, p. 204.
1870a **Sapindus heliconius** Unger: Ettingshausen, pp. 851, 889.
1874 **Sapindus heliconius** Unger: Schimper, p. 165, pl. C, f. 38.
1883 **Sapindus heliconius** Unger: Pilar, p. 100, pl. XII, f. 5.
1904 **Sapindus heliconius** Unger: Engelhardt, p. 353, pl. XCI, f. 12.
1910a **Sapindus heliconius** Unger: Engelhardt, p. 677, pl. II, f. 13.
1911 **Sapindus cf. heliconius** Unger: Kafka, p. 42.

1911 Sapindus heliconius Unger: Engelhardt, p. 402.
1921 Sapindus heliconius Unger: Principi, p. 91.
1922 Sapindus heliconius Unger: Engelhardt, p. 93, pl. XXXII, f. 4.
1926 Sapindus(?) heliconius Unger: Principi, p. 71.

Remarks: Heer (1869a, p. 94) suggests that this species is very near *S. falcifolius*. Schimper agrees with Ettingshausen in including *Neritinium longifolium*.

Occurrence: Eocene: Hessen (Messel near Darmstadt). Oligocene; Transylvania (Thalheim), Italy (Chiavon), Bohemia. Miocene; Croatia, Bosnia, Greece (Kumi).

Sapindus hispaniolana Berry.

1921 Sapindus hispaniolana Berry, p. 122, pl. XXI, f. 3.
Occurrence: Tertiary Dominica.

Sapindus imperfectus Hollick.

1904 Sapindus imperfectus Hollick, p. 415, pl. LXXVIII, f. 4.
1906 Sapindus imperfectus Hollick: Hollick, p. 90, pl. XXXIII, f. 15.
Occurrence: Cretaceous (Magothy); Long Island, N. Y.

Sapindus inconspicuus Saporta.

1865 Sapindus inconspicua Saporta, p. 130.
1874 Sapindus inconspicuus Saporta: Schimper, p. 164.
Occurrence: Oligocene; France (St. Jean-de-Garguier).

Sapindus inexpectans Knowlton.

1905 Sapindus inexpectans Knowlton, p. 144, pl. XVII, f. 7.
Occurrence: Cretaceous (Judith River); Montana.

Sapindus inflexus Lesquereux.

1883 Sapindus inflexus Lesquereux, p. 182, pl. XXXII, f. 2.
Occurrence: Miocene; Colorado (Florissant).

[**Sapindus kennedioides** Massalongo.]

1859 Sapindus kennedioides Massalongo, p. 93.
Remarks: Nomen nudum.

Sapindus knowltoni Berry.

1916 Sapindus knowltoni Berry, p. 274, pl. LXIII, f. 6.
Occurrence: Eocene (Wilcox); Arkansas, Tennessee.

Sapindus lacerus Saporta.

1889 Sapindus lacerus Saporta, p. 90, pl. III, f. 10.
Occurrence: Oligocene; Provence (Avignon).

Sapindus lanceolatus Engelhardt.

1922 Sapindus lanceolatus Engelhardt, p. 94, pl. XXXI, f. 2; pl. XXXII, f. 3.
Occurrence: Eocene: Hessen (Messel near Darmstadt).

Sapindus lancifolius Lesquereux.

1883 **Sapindus lancifolius** Lesquereux, p. 182, pl. XXXII, f. 3—6; pl. XXXVII, f. 9.
1916 **Sapindus lancifolius** Lesquereux: Knowlton, p. 283.
Remarks: Lesquereux considered the reference of his fig. 9, pl. XXXVII to this species as uncertain, and Laurent (1912, p. 204) says "cette feuille n'est certainement pas un *Sapindus*".
Occurrence: Miocene; Colorado (Florissant).

[**Sapindus leguminophyllum** Massalongo.]

1859 **Sapindus leguminophyllum** Massalongo, p. 93.
Remarks: Nomen nudum.

Sapindus leonis Cockerell.

1883 **Sapindus angustifolius** Lesquereux (pars) pl. XXXVII, f. 7.
1908 **Sapindus leonis** Cockerell, p. 102.
Remarks: See *S. angustifolius.*
Occurrence: Miocene; Colorado (Florissant).

Sapindus lignitum Unger.

1860 **Sapindus lignitum** Unger, p. 33, pl. XIV, f. 3—5.
1860 **Trapa globosa** Ludwig, p. 141, pl. LVIII, f. 23—27; pl. LX, f. 2, 4, 7. [teste Schimper].
1861 **Sapindus lignitum** Unger: Ettingshausen, p. 244.
1868 **Sapindus lignitum** Unger: Ettingshausen, p. 877, pl. V, f. 4, 5, 12, 13.
1874 **Sapindus lignitum** Unger: Schimper, p. 165.
1888 **Sapindus lignitum** Unger: Schenk, p. 550, f. 313[3].
1903 **Sapindus lignitum** Unger: Menzel, p. 17.
1911 **Sapindus lignitum** Unger: Kafka, p. 42.
Remarks: Founded on fruits, but Ettingshausen referred leaf impressions to the same species. Menzel (1903) mentions leaves from the Bilin basin, in a list only.
Occurrence: Oligocene; Wetterau (Salzhausen), ?Bohemia (Preschen).

Sapindus linearifolius Berry.

1888 **Salix angusta** Lesquereux, p. 13 (non A. Braun, non Heer).
1916 **Sapindus linearifolius** Berry, p. 275, pl. LXIII, f. 2—5; pl. CIX, f. 4.
1922c **Sapindus linearifolius** Berry: Berry, p. 3.
1923 **Sapindus linearifolius** Berry: Trowbridge, p. 91.
Remarks: See also *Sapindus*? (Colani, 1920).
Occurrence: Eocene (Wilcox); Mississippi, Arkansas, Louisiana, Tennessee, Kentucky, Texas.

[**Sapindus longifolius** Heer.]

Synonym of **Sapindus falcifolius**, q. v.

Sapindus macrophyllus Saporta.

1865a **Sapindus macrophylla** Saporta, p. 184.
1874 **Sapindus macrophyllus** Sap.: Schimper, p. 164.
Remarks: Close to *S. heliconius.*
Occurrence: Oligocene; S. France (Armissan).

[Sapindus macrophyllus Heer.]

Synonoym of Sapindus anceps, q. v.

Sapindus marylandicus Hollick.

1906a Sapindus marylandicus Hollick, p. 234, pl. LXXII, f. 11—14.
Occurrence: Pleistocene (Sunderland); Calvert County, Maryland.

Sapindus membranaceus Newberry.

1868 Sapindus membranaceus Newberry, p. 52.
1874 Sapindus membranaceus Newberry: Schimper, p. 168.
1878b Sapindus? membranaceus Newb.: Lesquereux, pl. XXIV, f. 2, 3. [not seen].
1898 Sapindus? membranaceus Newb.: Newberry, p. 117, pl. XXX, f. 2, 3.
Occurrence: Eocene (Fort Union); N. Dakota.

Sapindus merriami Knowlton.

1902 Sapindus merriami Knowlton, p. 78, pl. IX, f. 5.
Occurrence: Upper Eocene; Oregon.

Sapindus mississippiensis Berry.

1888 Sapindus angustifolius Lesquereux, p. 12.
1899 Sapindus angustifolius Lesq.: Hollick, p. 286, pl. XXXV, f. 5.
1906 Sapindus angustifolius Lesq.: Veatch, pl. XVII, f. 6.
1916 Sapindus mississippiensis Berry, p. 274, pl. LXIII, f. 1; pl. LXIV, f. 10; pl. LXVI, f. 1, 2; pl. CIX, f. 1.
1917 Sapindus mississippiensis Berry: Berry, p. 62.
1922c Sapindus mississippiensis Berry: Berry, p. 2.
1924 Sapindus mississippiensis Berry: Berry, p. 72.
Remarks: Berry (1916, p. 275) compares with this species the Tertiary leaves from Ecuador described by Engelhardt (1895, p. 17) as *Myrciaria tenuifolia*.
Occurrence: Eocene; Mississippi, Louisiana, Arkansas, Kentucky, Tennessee, Alabama.

Sapindus morrisoni Lesquereux.

1882 Sapindus morisoni Lesquereux MS.: Heer, p. 96, pl. XL, f. 1; pl. XLI, f. 3; pl. XLIII, f. 1a, b; pl. XLIV, f. 7, 8.
1883 Sapindus morrisoni Lesquereux, p. 83, pl. XVI, f. 1, 2.
1883 Sapindus morisoni Lesq.: Heer, p. 39, pl. LXV, f. 5.
1888 Sapindus morisoni Lesq.: Schenk, p. 550.
1892 Sapindus morrisoni Lesq.: Lesquereux, p. 158, pl. XXXV. f. 1, 2.
1892 Sapindus morrisoni Lesq.: Hollick, pl. III, f. 5.
1893 Sapindus morrisoni Lesq.: Hollick, p. 235, pl. VI, f. 3.
1894a Sapindus morrisoni Lesq.: Hollick, p. 57, pl. CLXXIX, f. 8.
1895 Sapindus morrisoni Lesq.: Lesquereux, p. 19, pl. A, f. 11, 12.
1898 Sapindus morrisoni Lesq.: Hollick, p. 422, pl. XXXVI, f. 4.
1901 Sapindus morrisoni Lesq.: Knowlton, p. 317.
1903 Sapindus morrisoni Lesq.: Berry, p. 83, pl. XLVII, f. 2, 3.
1904 Sapindus morrisoni Lesq.: Berry, p. 78.
1906 Sapindus morrisoni Lesq.: Hollick, p. 90, pl. XXXIII f. 16—20.

1906 **Sapindus morrisoni** Lesq.: Berry, pp. 138, 139.
1912 **Sapindus morrisoni** Lesq.: Berry, p. 396.
1914 **Sapindus morrisoni** Lesq.: Berry, p. 49, pl. IX, f. 6.
1917a **Sapindus morrisoni** Lesq.: Berry, p. 186.
1919 **Sapindus morrisoni** Lesq.: Berry, p. 112.
1920 **Sapindus morrisoni** Lesq.: Knowlton, p. 191.
1922a **Sapindus morrisoni** Lesq.: Berry, p. 168.
Occurrence: Upper Cretaceous; Greenland, United States.

Sapindus moskenbergensis Ettingshausen.

1870 **Sapindus moskenbergensis** Ettingshausen, p. 82, pl. V, f. 10.
1888 **Sapindus moskenbergensis** Ett.: Ettingshausen, p. 342, pl. VIII, f. 12, 13.
Occurrence: Miocene; Styria (Moskenberg).

[**Sapindus multinervis** Heer.]

1869 **Sapindus(?) multinervis** Heer, p. 19, pl. III, f. 11.
Remarks: Friedrich (1883, p. 152) lists this as unidentifiable.
Occurrence: Oligocene; Saxony.

Sapindus munzenbergensis Ettingshausen.

1860 **Magnolia plurinervia** Ludwig, p. 123, pl. XLVII, f. 3 [teste Ettingshausen 1868].
1868 **Sapindus munzenbergensis** Ettingshausen, p. 877.
1847 **Sapindus munzenbergensis** Ett.: Schimper, p. 166.
Remarks: Ettingshausen states that this species is closely related to *S. pythii.*
Occurrence: Oligocene; Wetterau (Munzenberg).

[**Sapindus novalensis** Massalongo.]

1859 **Sapindus novalensis** Massalongo, p. 93.
Remarks: Nomen nudum.

[**Sapindus novalensis** Squinabol.]

Synonym of **Sapindus undulatus**, q. v.

Sapindus obesus Hollick.

1924 **Sapindus obesus** Hollick, p. 307, pl. X, f. 1, 2.
Occurrence: Tertiary; Porto Rico.

Sapindus obtusifolius Lesquereux.

1874 **Sapindus obtusifolius** Lesquereux, p. 419.
1878a **Sapindus obtusifolius** Lesq.: Lesquereux, p. 266, pl. XLIX, f. 8—11.
1883 **Sapindus obtusifolius** Lesq.: Lesquereux, p. 181.
1901a **Sapindus obtusifolius** Lesq.: Knowlton, p. 309.
1902 **Sapindus obtusifolius** Lesq.: Knowlton, p. 79.
[1903 **Sapindus obtusifolius** Lesq.: Menzel, p. 17.]
[1911 **Sapindus obtusifolius** Lesq.: Kafka, p. 42.]
1916 **Sapindus obtusifolius** Lesq.: Duror, p. 580, f. 8c.
1923 **Sapindus obtusifolius** Lesq.: Knowlton, p. 166.
1924 **Sapindus obtusifolius** Lesq.: Knowlton, p. 90, pl. VIII, f. 4.

Remarks: For certain European leaves united with this species, see *S. dimidiatus*. Menzel's and Kafka's references are in lists only and are valueless. See also *Sapindus* sp. (Dawson 1888, p. 35).

Occurrence: Eocene; S. Dakota, Oregon, Colorado.

Sapindus oklahomensis Berry.

1918 Sapindus oklahomensis Berry, p. 632, pl. XCV, f. 1, 2.
Occurrence: Upper Miocene; Oklahoma.

Sapindus oligocenicus Principi.

1914 Sapindus oligocenicus Principi, p. 184 (nomen).
1916 Sapindus oligocenicus Principi, p. 137, pl. LXIII, f. 11.
Remarks: Referred with some doubt to the genus *Sapindus*. Compared with *S. dalmaticus* and the living *S. saponaria*.
Occurrence: Oligocene; Liguria (S. Giustina).

Sapindus oregonianus Knowlton.

1902 Sapindus oregonianus Knowlton, p. 79, pl. XV, f. 3.
1922 Sapindus oregonianus Knowlton: Chaney, pp. 216, 219.
Occurrence: Miocene (Mascall and Payette); Oregon.

Sapindus oxfordensis Berry.

1916 Sapindus oxfordensis Berry, p. 273, pl. LXVII, f. 5.
Occurrence: Eocene; Mississippi.

[**Sapindus oxleyensis** Shirley.]

1898 Sapindus oxleyensis Shirley, p. 9, pl. XVI, f. 3.
Remarks: A worthless fragment!
Occurrence: Tertiary; Queensland (near Brisbane).

[**Sapindus pencatianus** Massalongo.]

1851 Sapindus pencatianus Massalongo, p. 190.
1852 Sapindus pencatianus Mass.: Massalongo, p. 10, pl. I, f. 1, 2.
1859 Sapindus pencatianus Mass.: Massalongo, p. 93.
1893 Sapindus pencatianus Mass.: Meschinelli & Squinabol, p. 362.
Remarks: According to Massalongo this may be a leaf of his *Aralia elysiorum*, to which it is referred by Principi (1926, p. 89).
Occurrence: Oligocene; Italy (Chiavon and Salcedo).

Sapindus presaponaria Hollick & Berry.

1924 Sapindus presaponaria Hollick & Berry, p. 82, pl. VIII, f. 6, 7.
Occurrence: Late Tertiary; Brazil (Bahia).

Sapindus primaevus Squinabol.

1901 Sapindus primaevus Squinabol, p. 52, pl. III, f. 8.
Remarks: Near *S. falcifolius* and *S. drepanophyllus*.
Occurrence: Eocene; Italy (Novale).

Sapindus pristinus (Unger) Massalongo.

1849 **Juglans pristina** Unger, p. 350, pl. V, f. 7.
1850 **Juglans pristina** Unger: Unger, p. 470.
1851 **Juglans pristina** Unger: Massalongo, p. 202.
1852 **Sapindus bolcensis** Massalongo, p. 12, pl. I, f. 3. (Teste Massalongo 1858b).
1858b **Sapindus pristina** (Unger) Massalongo, p. 770.
1859 **Sapindus pristinus** (Unger): Massalongo, p. 92.
1859 **Sapindus pristinus** (Unger): Heer, p. 277.
1862 **cf. Sapindus pristinus** (Unger): De la Harpe & Salter, p. 117.
1893 **Sapindus pristinus** (Unger): Meschinelli & Squinabol, p. 362.

Remarks: Heer (1859, p. 277 note) points out that Unger's original specimen was from Mt. Bolca and not from Oeningen.

The *Juglans pristina* of Braun (in Bruckmann 1850, p. 234, Stizenberger 1851, p. 86, Heer, 1853, p. 147) is not Unger's species, and was renamed *Juglans vetusta* by Heer (1859, p. 90). *S. pristinus* is very close to *S. falcifolius*.

Occurrence: Eocene; Italy (Monte Bolca), ?England(Alum Bay).

Sapindus prodromus Heer.

1872 **Sapindus prodromus** Heer, p. 164 (nomen).
1874 **Sapindus prodromus** Heer, p. 117, pl. XXXIV, f. 5.
1882 **Sapindus prodromus** Heer: Heer, p. 96, pl. XXV, f. 5b; pl. XXVI, f. 5a.
1888 **Sapindus prodromus** Heer: Schenk, p. 550.

Occurrence: Upper Cretaceous; Greenland.

Sapindus pseudaffinis Berry.

1916 **Sapindus pseudaffinis** Berry, p. 272, pl. LXVII, f. 6.

Occurrence: Eocene (Lagrange); Tennessee.

Sapindus pythii Unger.

1848 **Sapindus pythii** Unger, p. 509.
1850 **Sapindus pythii** Unger: Unger, p. 457.
1852 **Sapindus pythii** Unger: Massalongo, p. 10.
1855 **Quercus ettingshauseni** Wessel, in Wessel & Weber, p. 132, pl. XXII, f. 10, 11. [teste Unger].
1855 **Quercus tenuinervis** Wessel & Weber, p. 133, pl. XXII, f. 9. [teste Unger].
?[1855 **Quercus ungeri** Weber: Wessel & Weber, p. 132, pl. XXI f. 11].
1860 **Sapindus pythii** Unger: Unger, p. 33, pl. XIV, f. 6—17.
1860 **Rhus elaeodendroides** Unger, p. 45, pl. XXI, f. 1—11 [teste Ettingshausen 1870].
1860 **Salix media** Ludwig, p. 93, pl. XXVIII, f. 1 [teste Ettingshausen 1868].
1861 **Sapindus pythii** Unger: Ettingshausen, p. 245.
1866 **Sapindus pythii** Unger: Unger, p. 51, pl. XVI, f. 6, 7.
1868 **Sapindus pythii** Unger: Ettingshausen, p. 878.
1869 **Sapindus pythii** Unger: Unger, p. 147, pl. II, f. 20.
1869 **Sapindus fraxinifolius** Ettingshausen, p. 26, pl. XLVI, f. 24—26; pl. XLVII, f. 12.
1870 **Sapindus pythii** Unger: Ettingshausen, p. 82.
1873a **Sapindus pythii** Unger: Stur, p. 201.
1874 **Sapindus pythii** Unger: Schimper, p. 165, pl. C, f. 39.
1874 **Sapindus fraxinifolius** Ett.: Schimper, p. 167.

1876 **Sapindus pythii** Unger: Engelhardt, p. 388, pl. VII (XXII), f. 7—10.
1877 **Sapindus pythii** Unger: Ettingshausen, p. 190, pl. XV, f. 12.
1883 **Sapindus pythii** Unger: Pilar, p. 101, pl. XII, f. 9.
1885 **Sapindus pythii** Unger: Engelhardt, p. 351, pl. XXI, f. 27; pl. XXVIII, f. 3.
1888 **Sapindus pythii** Unger: Ettingshausen, p. 342.
1889 **Sapindus pythii** Unger: Meschinelli, p. 288.
1893 **Sapindus pythii** Unger: Meschinelli & Squinabol, p. 362.
1893 **Sapindus pythii** Unger: Ettingshausen, p. 332.
1896 **Sapindus pythii** Unger: Ettingshausen, p. 493, pl. IV, f. 1.
1898 **Sapindus pythii** Unger: Engelhardt, p. 105.
1901 **Sapindus pythii** Unger: Squinabol, p. 55.
1911 **Sapindus pythii** Unger: Kafka, pp. 53, 62.
1914 **Sapindus pythii** Unger: Engelhardt, p. 303, pl. XIV, f. 7.
1914 **Sapindus pythii** Unger: Principi, p. 184.
1916 **Sapindus pythii** Unger: Principi, p. 136, pl. LXIII, f. 9.
1922 **Sapindus pythii** Unger: Engelhardt, p. 92, pl. XXXI, f. 8.

Remarks: We have provisionally included *S. fraxinifolius* Ett. in this species. The differences given by Ettingshausen are slight, and Schimper remarks: "voisin du *S. pythii*, attribution incertaine". In any case the name *S. fraxinifolius* had been previously used by De Candolle and by Blume.

Quercus ungeri Weber is included in the synonymy on the authority of Schimper, who gives an inaccurate reference, which is copied by later authors. Unger only includes *Q. ettingshauseni* and *Q. tenuinervis*, but the former is described as *Q. ungeri* on Wessel & Weber's plate.

Unger refers the specimen he figures from Radoboj in 1869 doubtfully to *S. pythii*.

Ettingshausen includes one of the specimens figured by Ludwig as *Salix media*, and also Unger's *Rhus elaeodendroides*.

Occurrence: Eocene; Hessen (Darmstadt), Italy (Novale). Oligocene; Italy, Carniola (Sagor). Miocene; Styria (Parschlug, Moskenberg), Croatia (Radoboj, Sused), Bohemia (Bilin etc.), Hessen (Vogelsberg).

Sapindus radobojanus Unger.

1866 **Sapindus radobojanus** Unger, p. 51, pl. XVII, f. 12, 13.
1874 **Sapindus radobojanus** Unger: Schimper, p. 167.
1877 **Sapindus radobojanus** Unger: Heer, p. 172, pl. LXX, f. 16.
1879 **Sapindus radobojanus** Unger: Sieber, p. 242.
1881a **Sapindus radobojanus** Unger: Engelhardt, p. 155.
1883 **Sapindus radobojanus** Unger: Pilar, p. 101.
1911 **Sapindus radobojanus** Unger: Kafka, pp. 29, 42.

Remarks: Very near to *S. falcifolius*, (Schimper), and might be united with it (Pilar).

Occurrence: Miocene; Croatia, Bohemia (Bilin basin).

Sapindus rocklandensis Knowlton.

1918 **Sapindus rocklandensis** Knowlton, p. 331, pl. XCVIII, f. 4.

Occurrence: Eocene (Raton); Colorado.

Sapindus rotarii Massalongo.

1858a **Sapindus rotarii** Massalongo, p. 102 [Not seen].
1858 **Sapindus rotarii** Mass.: Massalongo & Scarabelli, p. 359, pl. XIV, f. 4; pl. XLIV, f. 8.

1874 **Sapindus rotarii** Mass.: Schimper, p. 168.
1885 **Sapindus rotarii** Mass.: Sacco, p. 277.
1893 **Sapindus rotarii** Mass.: Meschinelli & Squinabol, p. 363.
1895 **Sapindus(?) rotarii** Mass.: Peola, p. 66 [not seen].
1896 **Sapindus(?) rotarii** Mass.: Paolucci, p. 119, pl. XX, f. 145.
1921 **Sapindus rotarii** Mass.: Principi, p. 92.
1926 **Sapindus rotarii** Mass.: Principi, p. 74.
1926a **Sapindus(?) rotarii** Mass.: Principi, p. 238, pl. IV, f. 22.
Occurrence: Oligocene to Pliocene; Italy.

[Sapindus salicifolius.]

1908 "**Sapindus salicifolius** Heer": Lauby, p. 156.
Remarks: Probably a misprint for *S. falcifolius*.

[Sapindus salicopsis Massalongo.]

1859 **Sapindus salicopsis** Massalongo, p. 93.
Remarks: Nomen nudum.

[Sapindus saponaria Linnaeus.]

Hollick (1924, p. 280) gives translated extracts from an extraordinary paper by P. Galtes on some fossil woods of Cuba. Galtes' method was unique: by a study of the relative specific gravity of recent and silicified woods, he identified 57 trees, all referred to living species. Among these was *Sapindus saponaria*, but the matter is only mentioned here as one of the curiosities of palaeobotanical literature.

Sapindus cf. saponaria Linn.

1926 **Sapindus cf. saponaria** Linn.: Hofmann, pp. 156—7, fig. 9a, b.
Remarks: This is the only instance, so far as we know, in which the cuticular structure of a fossil sapindaceous leaf has been described. The authoress states that a leaf figured by her recalls that of the living *S. saponaria*, and that the histological structure of the two is identical. Her figures of the epidermis certainly show a close resemblance, but are rather too diagrammatic, and not very detailed. She does not compare her leaf with any Miocene species, although she states (p. 160) that 48 specimens of *Sapindus* were found. The outline drawing (fig. 9a) of an incomplete leaf, without venation, can scarcely be identified, and might be compared with several of the described fossil species.
Occurrence: Lower Miocene; Styria (St. Kathrein).

Sapindus saxonicus Engelhardt.

1891b **Sapindus saxonicus** Engelhardt, p. 101, pl. II, f. 14.
1896 **Sapindus cf. saxonicus** Engelhardt: Krasser, p. 132, pl. XIV, f. 5.
Occurrence: Upper Cretaceous; Saxony (Niederschöna), Moravia (Kunstadt).

[Sapindus scytinophyllus Massalongo.]

1859 **Sapindus scytinophyllus** Massalongo, p. 92.
Remarks: Nomen nudum.

Sapindus stellariaefolius Lesquereux.

1878a Sapindus stellariaefolius Lesquereux, p. 264, pl. XLIX, f. 1.
1908 Sapindus stellariaefolius Lesq.: Cockerell, p. 101.
1908a Sapindus stellariaefolius Lesq.: Cockerell, p. 121, text-fig. unnumb.

Occurrence: Miocene; Colorado (Florissant).

Sapindus subfalcifolius Ettingshausen.

1887 Sapindus subfalcifolius Ettingshausen, p. 171, pl. V, f. 3; pl. VI, f. 2.
1890 Sapindus subfalcifolius Ett.: Ettingshausen, p. 281, pl. XXVIII, f. 3; pl. XXIX, f. 2.

Occurrence: Tertiary (Eocene?); New Zealand.

Sapindus tasmanicus Ettingshausen.

1883 Sapindus tasmanicus Ettingshausen, p. 139, pl. VI, f. 8.
1883a Sapindus tasmanicus Ett.: Ettingshausen, p. 155.
1888a Sapindus tasmanicus Ett.: Ettingshausen, p. 62, pl. VI, f. 8.
1888 Sapindus tasmanicus Ett.: Johnston, pp. 248, 285, pl. XLV, f. 8.

Occurrence: Tertiary; Tasmania.

[Sapindus tenuinervis Krasser.]

1903 Sapindus tenuinervis Krasser, p. 857.

Remarks: MS. name of Ettingshausen. Nomen nudum.
Occurrence: Tertiary; Brazil.

Sapindus undulatus (Al. Braun).

1850 Juglans undulatus Al. Braun in Bruckmann, p. 234.
1851 Sapindus? undulatus Al. Braun in Stizenberger, p. 87.
1859 Sapindus undulatus (A. Br.): Heer, p. 62, pl. CXXI, f. 3—7.
1861 Sapindus undulatus (A. Br.): Ettingshausen, p. 245.
1874 Sapindus undulatus (A. Br.): Schimper, p. 164.
1877 Sapindus undulatus (A. Br.): Ettingshausen, p. 189, pl. XV, f. 13.
1881 Sapindus undulatus (A. Br.): Engelhardt, p. 310, pl. XVI, f. 21.
1883a Sapindus undulatus (A. Br.): Heer, p. 127, pl. LXXXIV, f. 1—3.
1883 Sapindus undulatus (A. Br.): Steger, p. 24.
1888 Sapindus undulatus (A. Br.): Schenk, p. 550, 551.
1889 Sapindus undulatus (A. Br.): Meschinelli, p. 287.
1892 Sapindus undulatus (A. Br.): Keller, p. 107, pl. XIII, f. 4.
1893 Sapindus undulatus (A. Br.): Meschinelli & Squinabol p. 363.
1901 Sapindus novalensis Squinabol, p. 51, pl. III, f. 6.
1903 Sapindus undulatus (A. Br.): Menzel, p. 17.
1911 Sapindus undulatus (A. Br.): Kafka, pp. 42, 62.
1913 Sapindus undulatus (A. Br.): Engelhardt, p. 393, pl. I, f. 16.
1914 Sapindus undulatus (A. Br.): Principi, p. 184.
1916 Sapindus undulatus (A. Br.): Principi, p. 134, pl. LXIII, f. 13.
1921 Sapindus undulatus (A. Br.): Principi, p. 91.
1922 Sapindus undulatus (A. Br.): Engelhardt, p. 94, pl. XXIX, f. 2.

1926 **Sapindus undulatus** (A. Br.): Principi, p. 72, pl. VI, f. 24; pl. VIII, f. 11.

Remarks: We have included *S. novalenis* Squinabol here, as it is indistinguishable from *S. undulatus*. Squinabol himself notes the close resemblance, and moreover the name *S. novalensis* had been previously used by Massalongo.

The specimen from the Eocene of Mississippi identified by Lesquereux (1869, p. 420) as *S. undulatus* has been named *Eugenia hilgardiana* by Berry (1916, p. 318).

See also *Phyllites sp.*

Occurrence: Eocene; Italy (Novale), Hessen (Darmstadt). Oligocene; Italy (Mt. Piano, Chiavon), Bohemia (Preschen), Carniola (Sagor). Miocene; Baden & Switzerland (Oeningen, St. Gallen), Bosnia, Bohemia (Grasseth), Silesia.

Sapindus ungeri Ettingshausen.

1851 **Cassia phaseolites** Unger, p. 188, pl. LXVI, f. 1—7.
1860 **Sapindus ungeri** Ettingshausen MS.: Unger, p. 34, pl. XX, f. 1—6.
1861 **Sapindus ungeri** Ett.: Ettingshausen, p. 245.
1864 **Cassia phaseolites** Unger: Unger, p. 29, pl. X, f. 1—3.
1870 **Sapindus ungeri** Ett.: Unger, p. 12, pl. IV, f. 11, 12, 12*.
1870a **Sapindus ungeri** Ett.: Ettingshausen, p. 889, pl. II, f. 9.
1874 **Sapindus ungeri** Ett.: Schimper, p. 166.
1883 **Sapindus ungeri** Ett.: Halavats, p. 173.
1883 **Sapindus ungeri** Ett.: Pilar, p. 102.
1884 **Sapindus ungeri** Ett.: Schafarzik, p. 128.
1885 **Sapindus ungeri** Ett.: Sacco, p. 277.
1888 **Sapindus ungeri** Ett.: Ettingshausen, p. 342.
1896 **Sapindus ungeri** Ett.: Ettingshausen, p. 493, pl. III, f. 5.
1901 **Sapindus ungeri** Ett.: Squinabol, p. 55.
1903 **Sapindus ungeri** Ett.: Squinabol, p. 55.
1904 **Sapindus ungeri** Ett.: Engelhardt, p. 352, pl. LXXXVII, f. 19.
1921 **Sapindus ungeri** Ett.: Principi, p. 91.
1926 **Sapindus ungeri** Ett.: Principi, p. 73, pl. II, f. 7.

Remarks: Ettingshausen unites with this species the specimens of *Cassia phaseolites* figured by Unger from Radoboj, which he considers to be quite distinct from *C. phaseolites* from Sotzka.

Engelhardt includes *S. ungeri* in the synonymy of *S. falcifolius* (see the remarks on that species). Unger at first referred *S. graecus* to *S. ungeri*. Pilar includes part of *S. erdöbényensis* as figured by Unger (1870, pl. IV, f. 14). Principi considers that *S. ungeri* is near *S. cupanioides*.

Occurrence: Eocene; Italy (Novale). Oligocene; Italy (Chiavon), Hungary. Miocene; Hungary, Bosnia, Croatia (Radoboj). Pliocene; Italy (Astiano).

[**Sapindus urophyllus** Massalongo.]

1859 **Sapindus urophyllus** Massalongo, p. 93.
Remarks: Nomen nudum.

Sapindus variabilis Berry.

1919 **Sapindus variabilis** Berry, p. 111, pl. XXVII, f. 1—3.
Occurrence: Cretaceous (Tuscaloosa); Alabama.

Sapindus vellavensis Saporta.

1878 **Sapindus vellavensis** Saporta, p. 50, pl. VI, f. 5, 6.
1910 **Sapindus vellavensis** Sap.: Lauby, p. 372.
Remarks: Near *S. graecus*, according to Saporta.
Occurrence: Eocene (Bartonian); France, Haute-Loire (Brives).

Sapindus wardii Knowlton.

1899 **Sapindus wardii** Knowlton, p. 738, pl. XCVIII, f. 1, 2; pl. XCIX, f. 5.
Occurrence: Eocene (Fort Union); Yellowstone National Park.

Sapindus winchesteri Knowlton.

1923 **Sapindus winchesteri** Knowlton, p. 167, pl. XXXVIII, f. 1.
Occurrence: Eocene; Colorado (Rio Blanco County).

Sapindus yeguanus Berry.

1924 **Sapindus yeguanus** Berry, p. 73, pl. XII, f. 6; pl. XLIII, f. 1, 2.
Occurrence: Eocene (Yegua, Lisbon); Texas, Mississippi.

Sapindus zovencedi Massalongo.

1858 **Sapindus zovencedi** Massalongo, p. 16.
1859 **Sapindus zovencedi** Mass.: Massalongo, p. 93.
1893 **Sapindus zovencedi** Mass.: Meschinelli & Squinabol, p. 363.
Occurrence: Oligocene; Italy (Vicentino).

Sapindus sp.

1757 **Sapindus** sp.: Parsons, p. 168, pl. VI, f. 25, 33.
Occurrence: Lower Eocene; England (Sheppey).

Sapindus sp.

1879 **Sapindus** sp.: Dawson, p. 187B.
Occurrence: Oligocene; S. British Columbia.

Sapindus sp.

1888 **Sapindus** sp. cf. **S. obtusifolia** Lesq.: Dawson, p. 35.
Occurrence: No locality nor horizon given. In a collection "from the Belly River Series, and the Lower and Upper Laramie", Canada.

Sapindus sp.

1897 **Sapindus** sp.: Stanton & Knowlton, p. 142.
1919 **Sapindus** sp.: Knowlton, p. 582.
Occurrence: Eocene; Wyoming.

Sapindus sp.

1906 **Sapindus** sp.: Krasser, p. 42.
Occurrence: Senonian; L. Austria (Grünbach).

Sapindus sp.

1908 **Sapindus** sp.: Taeger, p. 205, pl. III, f. 10.
Occurrence: Lower Eocene; Hungary (Tatabanya).

Sapindus sp.

1908a **Sapindus** sp.: Knowlton, p. 25.
Occurrence: Upper Cretaceous (Mesaverde); Colorado.

Sapindus sp.

1912 **Sapindus** sp.: Knowlton, p. 481.
Occurrence: Eocene (Fort Union); Wyoming.

Sapindus sp.

1921 **Sapindus** sp.: Chaney, p. 91.
Remarks: We do not know whether this "new species" has been named and described. Some of Chaney's papers, though published in 1920 and 1924, have not yet reached England (October 1927).
Occurrence: Miocene (Monterey Group); S. California.

? Sapindus sp.

1908 ?**Sapindus** sp.: Knowlton, p. 34.
Occurrence: Tertiary; Alaska.

Sapindus ? sp.

1924a **Sapindus**? sp.: Berry, pp. 87, 90.
Occurrence: Eocene; Central Texas.

Sapindus ?

1858c **Sapindus**?: Massalongo, p. 186, pl. V, f. 4.
Remarks: Too fragmentary for determination.
Occurrence: Upper Eocene; Italy (Monte Pastello).

Sapindus ?

1897 **Sapindus**?: Almera, p. 160.
Occurrence: Pliocene; Spain (Tarragona, Espluga).

Sapindus ?

1920 **Phyllites** cf. **Sapindus linearifolius** Berry (?): Colani, p. 470, f. 55.
Occurrence: Pliocene; Indochina (Muong-peun).

Sapindus ?

1922 Undetermined Leaflet, Berry, p. 186, pl. VIII, f. 2.
Remarks: Compared by Berry with *Sapindus* and *Cedrela*.
Occurrence: Pliocene; Bolivia (Pisllypampa).

Sapindus ?

1923 **Phyllites coloradensis** Knowlton, p. 176, pl. XXXVIII, f. 3.

Remarks: A possible relationship with *Sapindus* is suggested.

Occurrence: Eocene; Rio Blanco County, Colorado.

Schmidelia Linnaeus.

Schmidelia bejucensis Berry.

1918a Schmidelia bejucensis Berry, p. 37, pl. XVII, f. 4.

Occurrence: Oligocene? (Culebra and Caimito formations): Panama canal zone.

Schmidelia eduliforma Berry.

1925 Schmidelia eduliforma Berry, p. 210, pl. III, f. 7.

Remarks: Fruiting spike.

Occurrence: Miocene; Patagonia.

Schmidelia graciliforma Berry.

1925 Schmidelia graciliforma Berry, p. 209, pl. VI, f. 2, 3.

Occurrence: Miocene; Patagonia.

Schmidelia proedulis Berry.

1925 Schmidelia proedulis Berry, p. 211, pl. I, f. 3.

Remarks: "This species is, unfortunately, based upon the single incomplete specimen figured, which is altogether insufficient for a proper diagnosis". (Berry).

Occurrence: Miocene; Patagonia (Chubut).

Schmideliopsis Felix.

Schmideliopsis zirkeli Felix.

1882 Schmideliopsis zirkeli Felix, p. 72.

1883 Schmideliopsis zirkeli Felix: Felix, p. 16, pl. II, f. 6, 8.

Remarks: Wood. Structure agrees, according to Felix, with that of *Schmidelia haemorrhoea*.

Occurrence: Miocene; Antigua.

Stocksia Bentham.

[Stocksia ?]

1915 Stocksia?: C. & E. M. Reid, p. 112, pl. XI, f. 17.

Remarks: A seed, compared with the living *Stocksia* and *Koelreuteria*. This view was abandoned later.

Occurrence: Pliocene; Holland (Tegelen, Reuver); Belgium (Raevels).

Thouinia Poiteau.

Thouinia occidentalis Engelhardt.

1922 Thouinia occidentalis Engelhardt, p. 95, pl. XXXI, f. 1.

Occurrence: Upper Eocene; Hessen (Messel near Darmstadt).

[Thouinia philippii Engelhardt.]

Synonym of Cupania grosse-serrata, q. v.

Trematocaryon Mueller, 1871 (June), p. 48.

[Trematocaryon mclellani Mueller.]

1871 (June) **Trematocaryon mclellani** Mueller, p. 48, pl. III, f. 1—17.
1874a **Trematocaryon mclellani** Mueller, p. 12, pl. III.
Remarks: Stated to be possibly *Sapindaceae*, but also compared with *Verbenaceae*.
Occurrence: Pliocene; Victoria.

Tricoilocaryon Mueller, 1878, p. 35.

Remarks: In 1878 von Mueller stated that "possibly this genus may prove referable to *Sapindaceae*", but in 1883 he omitted this remark.

[Tricoilocaryon barnardi Mueller.]

1878 (March) **Tricoilocaryon barnardi** Mueller, p. 35, pl. XIV, f. 1—4.
1883 **Tricoilocaryon barnardi** Mueller: Mueller, p. 7, pl. XIV, f. 1—5.
Occurrence: Pliocene; New South Wales.

Wilkinsonia Mueller, 1877 (Sept.), p. 37.

Remarks: "May perhaps have belonged to the order of Sapindaceae".

[Wilkinsonia bilaminata Mueller.]

1877 (Sept.) **Wilkinsonia bilaminata** Mueller, p. 37, pl. XIII, f. 1—6.
1879 **Wilkinsonia bilaminata** Mueller: Mueller, p. 170, pl. III, f. 4.
1883 **Wilkinsonia bilaminata** Mueller: Mueller, p. 7, pl. XIII.
Occurrence: Pliocene; New South Wales.

Xanthoceras Bunge.

Xanthoceras antiqua Friedrich.

1883 **Xanthoceras antiqua** Friedrich, p. 196, pl. XX, f. 10b; pl. XXVI, f. 6.
Occurrence: Oligocene; Saxony.

Summary of Genera.

The first figure includes the more or less authentic species; the number in brackets gives the synonyms, nomina nuda etc.

Aphania Blume	1
Aporrhiza Radlkofer	1
Carpolithus Linnaeus	4+[3]
Chytranthus Hooker f.	1
Conchotheca Mueller	[1]
Cupania Linnaeus	4+[20]
Cupanites Schimper	14
Cupanoides Bowerbank	10+[3]
Deinbollia Schumacher	3
Djambioxylon Kräusel	1
Dodonaea Linnaeus	21+[7]
Dodonaeites Saporta	1
Enourea Aublet	1
Eriocoelum Hooker f.	2
Euphoria Comm. ex Jussieu	[2]
Euphoriaecarpum Menzel	1
Euphoriopsis Massalongo	3+[1]
Fraasia Unger	1
Glossolepis Gilg	1
Koelreuteria Laxmann	9+[5]
Lychnodiscus Radlkofer	2
Nephelites Deane	6+[1]
Nephelium Linnaeus	2
Pancovia Willdenow	2
Paullinia Linnaeus	7+[6]
Pentacoila Mueller	[1]
Penteune Mueller	[4]
Phialodiscus Radlkofer	1
Phyllites Brongniart	[1]
Phymatocaryon Mueller	[3]
Sapindoides Perkins	9
Sapindophyllum Ettingshausen	11+[3]
Sapindopsis Fontaine	4+[6]
Sapindoxylon Kräusel	1
Sapindus Tourn. ex Linnaeus	86+[46]
Schmidelia Linnaeus	4
Schmideliopsis Felix	1
Stocksia Bentham	[1]
Thouinia Poiteau	1+[1]
Trematocaryon Mueller	[1]
Tricoilocaryon Mueller	[1]
Wilkinsonia Mueller	[1]
Xanthoceras Bunge	1
	217+[118]

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Heavy type indicates the page on which the synonymy is given. Recent species are marked with an asterisk.

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